

HARDY SHRUBS



IVY LEAVES.

1. *Marginata elegantissima.* 4. Palmata.
2. *Arborescens* marginata aurea. 5. Digitata.
3. *Kenwoodii.* 6. Rhombea. 7. Lobata major.

FRONTISPIECE.

3. [illegible] 6. Rhombea. 7. Lobata major.

IECE.

HARDY SHRUBS

WITH DESCRIPTIONS OF THE MOST POPULAR KINDS, AND PRACTICAL DIRECTIONS FOR THEIR CULTURE AND USE

With Coloured Plates and Numerous Woodcuts

BY

W. D. PRIOR

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PREFACE.

PERHAPS there is no department of Practical Horticulture upon which so much ignorance prevails as in the cultivation and use of shrubs. Gardeners themselves, except those of the highest grade, appear to consider them unworthy of more than casual notice, lavishing their cares upon the production of flowers. Amateurs, again, either from ignorance, or want of appreciation of the treasures of beauty at their command, seldom utilize them to the extent their merits deserve. The object of this little book, therefore, is to supply the large body of the inexperienced with information in a practical and popular form about some of the most important and useful subjects for general garden decoration, and which ought to form the groundwork of every plan for laying out even the smallest plots. Such a handbook must necessarily assume, in a great degree, the character

of a digest; nor would it be consistent with its practical scope to enter upon those details which properly belong to the functions of botanical science. For these, indeed, its compass would be utterly inadequate, neither, if given, would they be of much utility to the class for whom its pages are designed. The Author's endeavour has been to make the information and instruction given suitable for the many, in a systematic form, easy of comprehension and readily to be referred to. There is no want of books upon every department of horticulture, but these for the most part are too pretentious in their scope, or too advanced to meet the wants of the tyro. What is really required are such as begin with the alphabets, so to speak, of the subjects on which they treat. This has been the Author's aim in this little handbook. It must likewise be understood that no pretension is made to more than an elementary notice of such popular tribes and varieties of shrubs as are adapted to the views of ordinary cultivators. An exhaustive treatise on the subject would require volumes. Nevertheless, the treatment will be sufficiently complete for practical purposes, so far as the objects brought under consideration are professed to extend, nor will somewhat novel views be found absent in the course of their review.

The cuts and illustrations, for the most part, are taken "direct from nature" for the use of this work. They are intended rather as fairly truthful delineations of the objects represented, than highly worked-up "pretty pictures"—as too many of such productions usually are. Nor would, indeed, the price of the book allow of such, did the Author consider them desirable or consistent with the nature of the work.

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HARDY SHRUBS

FOR

AMATEURS.

CHAPTER I.

ON SHRUBS IN GENERAL.

IT is not so easy as it might appear at first sight to give a satisfactory definition, concise yet comprehensive, of what constitutes a Shrub (*A.-S. Scrob*). It is one of those things of which the mind instinctively forms an idea, though not readily able to express it in exact terms. One reason of this is that it is difficult in many instances to draw a hard-and-fast line of demarcation between trees and shrubs, many kinds of either belonging to one or other class according to age or dimensions. Thus there are trees, particularly certain varieties of slow growth, that are commonly seen under the form of shrubs. Some again of the most popular and well known of the shrub tribe ultimately develop into the

stature of trees. It will serve to illustrate this statement more clearly by instancing some of the conifers, and contrasting them with the Holly. The latter is almost always considered as an evergreen shrub, yet, with considerable age and under favourable circumstances, it becomes a tree twenty or even thirty feet in height. The conifers, again, which are amongst the most lofty trees, have, many of them, dwarf varieties, which never, under any circumstances, could assume the altitudes and the characteristic forms of their types, and are consequently rightly treated as shrubs. Although the organization and functions of both these members of the arboreal tribe are similar, yet a point of divergence in their mode of growth forms a good basis for a popular definition. Both are ligneous or woody plants; but in the tree there is found a portion of wood called a trunk, or stem—of greater or less dimensions—between the ground level and the point at which ramifications or branches begin. In the shrub, however, ramification commences from that part of the plant just above the surface of the earth termed the "collar." We have here a natural feature of distinction which in all cases prevails, except where interfered with by artificial means. It is necessary to have a clear understanding as to the difference between the tree and the shrub, to do away with the confusion likely to beset the inexperienced on finding individuals of such diverse forms and habits of growth classified as belonging to the same genera. Perhaps the matter may be made clearer by taking an

illustration from the genus *Abies* (white spruce), under which we find *Alba*, a noble tree 50ft. high, *Clanbrasiliana*, a dwarf, dense bush, never exceeding 4ft., and *Pygmæa*, a diminutive object of about 1 foot. We may therefore consider a shrub to be *a woody plant, the branches of which proceed immediately from the root or nearly above it*, and in this sense it will be spoken of in the following pages.

The shrubs now under cultivation in English gardens are, some of them, indigenous to the country. Others have been largely introduced at different periods from various regions of the earth. Many of these, which were at first believed to be tender, and only fit to be grown in the stove, or at least in greenhouse temperatures, experience has proved to be completely hardy—as much so as in their native country, or as those species natural to the island. In this way objects curious, beautiful, or useful, from all parts of the world, have now become acclimatized in our grounds and gardens, adding variety and interest to our scenery, as well as, in many cases, furnishing products of great utility in the Arts and Sciences. It is not, however, the design of this work to consider them from the latter point of view, but merely from that of their relation to the garden and landscape, of which they form such important embellishments, adding so greatly to our pleasure and enjoyment at every season of the year.

One great advantage peculiar almost to shrubs is that there is scarcely any position for which they are unsuited.

Belts, avenues, borders, beds, approaches, lawns, promenades, rock-work, wilderness, coverts, and undergrowth may all be heightened in attractiveness by the judicious introduction of some or other of their species. Moreover, there is an air of finish and refinement—of *grade*, so to speak—conveyed by the presence of the choicer examples of the race, that is not conferred by any other natural objects at the horticulturist's command. When we see artistically-placed specimens of Cupressus Lawsoniana or Araucaria on the lawns, we are at once impressed with the feeling that good taste may be looked for in other parts of the gardenesque designs, and that means are not lacking to carry it out. Another point in favour of the culture of shrubs is their comparative freedom from insect pests; neither does it entail that constant detail of minute attentions too commonly required by other tenants of our gardens.

The principal divisions under which hardy shrubs may be classed are those of Evergreen and Deciduous; that is, those which retain their foliage all the year round, and those which shed their leaves wholly or in greater part during the winter. The former are naturally the most important, inasmuch as they constitute pleasing objects at every period of the year. When the garden has lost its roses, its flowers, and all the beauties of the summer season, the evergreens are still to be seen in undiminished brightness, a perennial source of delight to the lovers of bright objects, attractive forms, and exercise in the open air.

Each of the above great sections may be further subdivided into flowering and non-flowering, of which there are examples in both, and again into climbing and berry-bearing species and varieties.

Being for the most part thoroughly hardy, it is not the least important recommendation towards making the evergreens, or choicer representatives of the deciduous tribes, the chief furniture of the garden, that, once planted, they are permanent, improving rather than deteriorating with time and care. Such, however, is the case under ordinary conditions, and consequently the first purchase is the only, or at least the chief, expense. Moreover, some of the very best kinds for general adoption are the cheapest, so that even when exceptionally severe winters cut them down or kill them outright, the cost of repairing damages is comparatively small—a point not without importance to a large body of amateurs.

CHAPTER II.

On the Forms and Colours of Shrubs.

It would seem to be an established opinion in the minds of a too numerous class of the gardening fraternity that shrubs are objects of such minor importance in comparison with flowers, that they may be treated with indifference or neglect, notwithstanding their manifold ornamental qualifications. An artistic combination of shrubs, therefore, is seldom seen, except in such pleasure grounds as are under the direction of horticultural experts of the higher grade. It is no disparagement, however, to the beauty and value of the floral race to point out the just claims that the Shrub tribe has under its diversified forms to constitute the groundwork of every garden plan worth the name, giving it a solid and permanent character which can never be attained by the mere use of transitory flowers, however beautiful. An artistic combination of forms will always be attractive, because at all times there will be a variety to relieve and amuse the eye. Harmony and contrast equally subserve to this end, whether the effect be produced by form or colour. It does not

follow, from this point of view, that the use of flowers is to be prohibited. They may still perform important decorative functions, analogous in some degree to the jewels of a lady in full dress. Still, the more impcrtant occupants of the beds and borders are amply fitted to produce attractive and beautiful scenes by their unaided effects. To say nothing of the flowering and berry-bearing families, the more valuable as they supply colour at a season when it is almost absent from the garden, there are so many shades and gradations amongst the "greens," naturally, as they are seen under the modifying influence of distance and light, that they are capable of producing pleasing and artistic colour-pictures in themselves, dispensing altogether with flowers. These contrasts of colour may also be very much heightened in effect by contrasts in form, the latter being on a scale and of a character which throws the mere masses of bright tints brought out by the "bedding system" completely into the shade, unless heightened and relieved by a plentiful support of green, the natural tonic and restorative to the sight, fatigued and dazzled by too continuous an exposure to the glare of excessive and high colour.

The natural forms of growth to which shrubs approximate more or less may be considered as follows:—

Columnar.
Pyramidal.
Conical, various as to base, apex, and height.
Cushion-like.
Bushy.

Pendulous.
Spindle-like.
Dwarf-spreading.
Creeping.
Fastigiate.
Standard—an artificial training.

Again, as to colours of foliage, we have—

Copper and purple.
Lurid green.
Sombre green.
Dark full green.
Glaucous green.
Yellowish green.
Medium green.
Light green.
Neutral yellows.
Silvery creams.
Pale yellow tones.
Bright yellow tones.
Distinctly marked variegations.
Russet.

These, of course, are the general tones of leaves seen in masses. The above remarks suggest that the proper course to be pursued by those desirous of laying out a well-designed shrubbery, whatever the scale may be, is to draw out in the first instance a plan on paper, indicating by a few broad outlines the shapes and colours of those subjects intended to be brought into use. Thus

a general idea will be gained of the proposed effect. This plan ought then to be studied at the nurseries, or in other large collections, in the presence of the plants themselves, so as to obtain an opportunity for correction or improvement. This idea would indicate, by the way, from very early summer to the "fall of the leaf" as the period best adapted for carrying it out, particularly as it is also an excellent time for the removal of shrubs in the opinion of many high authorities, though founded upon totally different considerations to those already advanced. The designer, furnished with pigments and palette, should then hit off the various colours exhibited by the objects before him, assisted by the outline of their forms. It is scarcely possible to over-estimate the value to planters of such a course of procedure. Indeed, illustrations of this character would have formed a part of this work, had the price allowed of the necessary expense to carry it out.

In connection with this part of the subject it may be as well to refer to the lucid exposition of the laws of colour in M. Chevreuil's exhaustive treatise, "The Laws of the Contrast of Colour, &c.," published by Messrs. G. Routledge and Co., under the head of "Landscape and Flower Gardening." The information there given is worth the most careful study of those who wish to distinguish themselves as garden colourists, in every phase of the art, whether relating to shrubs or flowers.

CHAPTER III.

On Preparing Beds and Borders.

It does not need much reflection to understand that the soil is the first thing to be considered in relation to the plants to be grown therein, because unless adapted to their particular nature they are not likely to return very satisfactory results. It evidently would be mere folly to expect those things which require strong loam to thrive in sandy peat, or indeed to attempt to cultivate almost any description of plant in a mere hungry gravel, which contains no feeding particles at all. The vegetable races, like the mammals, are epicures, having their favourite food. The first thing, therefore, in preparing beds or borders, is to acquire an accurate notion of their constituent parts and general staple, and how far they agree with the requirements of the plants to be placed therein; nor must the character of the subsoil be omitted from such an estimate. To acquire this knowledge to the requisite extent will be for the most part beyond the capabilities of the mere inexperienced amateur, who, moreover, will usually employ a skilled workman to carry out the object rather than undergo

the labour himself. This will, in every respect, be by far the most effectual plan, especially in the first instance, whether it involves the supply of those ingredients in which the ground is deficient for certain specific purposes, or its routine of manipulation preparatory to the reception of such objects as are designed to be planted. The analysis of soils is far too extensive a subject to be entered upon in a practical elementary work. In a general view they may be summed up as follows:—1. clays; 2. loams; 3. marls; 4. chalks; 5. sands; and 6. peats. The first is, for most purposes, too heavy and tenacious, and will require "opening," or being made lighter, by admixtures of such material as will modify its adhesive texture, amongst which few roots are able to penetrate. Loams of various substances are of a lighter and richer nature, and are suitable for the culture of most plants; and the nearer mould can be brought to such a texture, the more extensive will be its suitability for almost every purpose. Marl is a lighter kind of clay, with somewhat different ingredients, and may likewise be easily improved. Chalk, as an upper stratum, is suited to but limited use. Sand alone will be proper only to certain objects of culture, and when modified by judicious additions is of wide utility. Peat has certain races of plants which peculiarly affect such soil; some of which, however, will grow very well in light loams mixed with sand, particularly if a little leaf mould, *i.e.*, that which is produced from rotted leaves, be added. With this

general view the amateur may proceed to determine what are the peculiar characteristics of the soil at his command, choosing the *plants* he proposes to cultivate accordingly, and introducing such alterative substances as may, in special instances, be required.

The next step will be to carry out the manipulative operations of cultivation, which are comprised in digging, trenching, and providing for efficient drainage where it does not naturally exist.

Digging is not such an easy matter as some persons might suppose. This may easily be understood by watching two operators of various degrees of skill conduct the operation. The one, with a sharp, clean spade (always a sign of "the hand, workman, knowing what he is about"), takes a thin slice of earth with the blade, throws it well before him into the opened part of the trench, and breaks it lightly with a stroke or two just sufficient for disintegration, and goes on steadily so through the whole piece. The other struggles to lift a huge clod, and perhaps, after heaving it up, topples over himself. Now, although it is not every amateur that will choose to undergo the fatigue of digging and trenching for himself, it is as well that he should know how it ought to be done, which is on this wise. With a clean, sharp No. 2 spade of good quality—for good work cannot be done without good tools—begin at the end of the piece, throw out a spadeful one spit deep, and then go regularly on, working back with the style of stroke such as the skilled workman is supposed to have made. Turn

over the earth and bury the weeds, if any, in so doing. *Trenching* is taking out the soil *two* spades or "spits" deep, bringing the lower "spit" to the top, and *vice versâ*. This not only *renews* the surface soil, but lets the air into it, and sweetens it, as well as acting beneficially in various ways. In shallow earths, however, where the subsoil is poor, it should be only stirred, and some better staple mixed with it, before the top "spit" is returned. The way to trench is this:—Take out first one spade deep, and then another. This will be about two feet deep, and for about twenty inches wide, and place the earth on one side. Then mark off another twenty breadth, and regularly dig the breadth one "spit" deep, throwing the earth into the fresh trench. Then dig the same breadth a second spade deep, throwing the earth on that already turned in, and so on till the work is concluded. During the operation of *trenching* it will usually be discovered whether any, and to what extent, artificial drainage is required. With respect to this part of preparing borders and beds, we would say, always commit it to the hands of some one who understands the business, if of such a nature as to require the laying down of pipes or other elaborate schemes. But under less urgent conditions, and in ordinary circumstances, it will be sufficient to take out two feet or so of earth, and then having removed another six or nine inches, fill in that bottom with lumpy turves, grass downwards, and brick rubbish or any other porous material. This plan, though simple, will usually be found sufficient. It may happen, however,

that the water percolates through the subsoil too rapidly. In such a case the earth of the border must be removed as before, and lumps of clay, or adhesive material, disposed amongst the lower stratum, so as to check the too rapid absorption of moisture from the roots of the plants in the borders. When any particular soil requires to be introduced, for special plants, into the ordinary border, a hole must be made wide and deep enough for a good supply, according to the size of the object it is intended to grow there. In digging, &c., annual weeds may be turned in, but perennials should be carefully picked out, or they will be sure to find their way through again in time.

Associated with digging are the subordinate operations of raking and hoeing. The first is useful to break up and make even the surface of the soil, and to remove rubbish and refuse of all kinds, which will always collect round the collars of plants, especially where the branches are numerous from the base. A small, fine-toothed implement is best for the purpose, both for working in small places and for avoiding bruising or breaking the plants. The hoe is required for rooting up weeds, and for disturbing the surface soil when it becomes hard and caked after rain. A sound hoeing is often equivalent in its effects to a watering. Both operations ought to be employed frequently, to the manifest health of the tenants of beds and borders, shrubs, flowers, or vegetables alike.

CHAPTER IV.

ON LAYING OUT SHRUBBERIES.

LANDSCAPE gardening may justly be considered one of the fine arts. The nice perceptions of forms and colours, the just gradation of objects and their most advantageous combinations, require artistic instincts of the highest order. In fact, pictures have to be created through the medium of the living forms of nature, instead of the imitative resources of pictorial art. Not only is it the imitative faculty which is called forth in reproducing prominent features of natural scenery, but the creative also, in developing beauty where it lies dormant, and heightening it where it is only partially displayed. The great landscape gardeners, therefore, who have from time to time revolutionized the horticultural tastes of their age, have deserved to hold a high place amongst the improvers of the public taste, the more so as the circles influenced by their teaching are wider than those affected either by the sculptor or painter. Hence the improvement that has taken place in the laying out of public gardens and noble private domains within comparatively recent years, and which is daily extending to the more

unpretentious premises of those who possess such humble plots as the diminutive forecourt or the back garden attached to the smallest suburban cottage, is not a little owing to the influence of their teaching and example.

It cannot be denied that of late years a considerable advance has been made in the style of embellishment adopted in the generality of gardens. In this respect it has followed the general and growing fancy for pictorial illustration and more attention has been directed to objects remarkable for picturesque appearance or coloured foliage, in contradistinction to the mere colour masses of flowers, only ornamental for the most part during a limited portion of the year. Still there is a lamentable neglect or abuse of the numerous beautiful objects of the various families of shrubs, some evergreens, some flowering, some clothing unsightly objects with continuous verdure, and, in fact, amongst them, completely supplying every want in a garden by their own effects. This arises in a great degree from the general ignorance, as we have already said, that prevails about shrubs. Even in the best gardens, the borders are filled with only a few common kinds, usually dropped in, as it were, in a haphazard manner, just as they might be taken out of the cart as it delivers them at the door. Form, colour, size, shape of the leaves, and numerous other salient features, are quite ignored in their disposition. They may look well, or the reverse, but if so—to use a common expression—it is more by good luck than by good management. Indeed, the author has repeatedly observed how astonishingly little is known

about shrubs even by those whose business it should be to have an intimate acquaintance with them, and their uses. This accounts for the rarity with which the choicer varieties of the Retinosporas, the Cupressuses, the Berberies, and the hosts of charming flowering and berry-bearers are seen outside the nursery quarters. Let him who really desires to learn the wealth of attractive garden decorations, hitherto unknown to him, visit some of the first-rate nurseries—*first-rate* only, recollect—and he will assuredly return a happier and a wiser man. Nor will a tour of observation in suburbs where residences of superior grade abound, be without many a valuable lesson for the earnest student of the art of garden design on a small scale. In many of these the effect of shrubs may be studied with particular advantage.

It would be a mistake to suppose that landscape gardening is confined merely to designs on a large scale. Its principles should be as much observed relatively on the smallest. It will be readily understood that it would not be possible nor consistent in an elementary work intended for the tyro to enter upon a disquisition embracing so large a topic, more particularly where only one class of subjects is concerned. Yet there are a few principles that no one should lose sight of who wishes to plant his garden well. In the first place, every garden, whatever its dimensions, ought to have some distinctive feature to which other considerations must be subordinated. This feature may be dependent on natural circumstances, or the special fancy

of its owner. It may be the hobby of an enthusiastic patron of the bedding system, or the admirer of old-fashioned perennials, or the pet of some ardent rosarian, or even an admirer of tulips, once the delight of our forefathers. Without the support of evergreens, however, it will be but a blank and barren paradise for many months in the year,—"A thing of beauty"—while it lasts, but not "a joy for ever;" therein contradicting the oft-quoted dictum of the poet, which might, indeed, be applied to a well-planned shrubbery, but not to the mere garden of flowers.

It will be understood, from these remarks, that such suggestions as are here made relate to the planting of shrubs. It has already been pointed out that the ordinary class of these are evergreens—the reason is self-evident. As one of the chief features in a garden is that it should be enjoyable—a "pleasaunce," as it was once termed, in fact—leafless branches, and bare borders, commencing with the season of the "sere and yellow leaf," would scarcely constitute it such during many months of the year. The staple of the beds and borders and the specimens on the lawns must, therefore, be evergreens, not unmixed, however, with a few choice deciduous shrubs, which must be so placed as to be thrown into the shade by their neighbours when not in a fit state to be seen by company, but yet not entirely concealed when arrayed in their summer garb. Another point to be attended to is to keep the larger objects to the back of the border, with a good showy object of some sort to fill

up objectionable and unsightly corners and to hide undesirable prospects. Again, contrast shapes and colours with taste. Let round contours be relieved by columnar or pyramidal forms, but let such appear to rise in their positions in a natural way. In fact, let a *symmetrical irregularity*—if such a phrase may be allowed—lead the eye by easy transitions from object to object with a sense of gratification and pleasure, instead of disgust at abrupt transitions, which, however in keeping with scenes of wild and savage grandeur, are scarcely so with the borders on the scale of planting with which such amateurs as we contemplate in this handbook will have to deal. That objects of medium height and cushion-like form, mixed with spindular or narrow cones, should occupy the centre, and lower growers the front, scarcely needs a hint. But the last named should be such as will bear close examination, and the more choice in all points the better adapted for positions in the foremost row, especially if set off by a nice verge of turf. The front of the border is also the best suited for specimen standards, not placed too near together. If the verge is wide enough, they may be ranged in little beds alternately—but not grassed up to the collar—with tall and narrow pyramids and conical plants. Such an arrangement gives the appearance of length to a walk. Blocking out objectionable objects ought not to be lost sight of by planters, as well as judicious opening up of others of a pleasing character when opportunity affords. By

skilful adaptation, picturesque features belonging to exterior places may be made to appear as part of the actual garden. Undulating outlines ought always to be aimed at, instead of a succession of straight lines, because such variety in outline is more picturesque. One of the finest illustrations of artistic planting of shrubs is to be seen in the grand central avenue at the Waltham Cross Nurseries, a drawing from a photo of a portion of which is to be seen in the accompanying plate. This walk is of turf, about 800 yards in length from end to end. On each side it is planted with choice specimens of various kinds of shrubs, some singly, some in groups in beds, interspersed at intervals with rose pillars, and beds of free-flowering dwarfs. More valuable instruction in the artistic disposition of the tribe under consideration may be gleaned by a careful study of the various objects in this noble promenade than could be obtained from whole pages of descriptive letterpress.

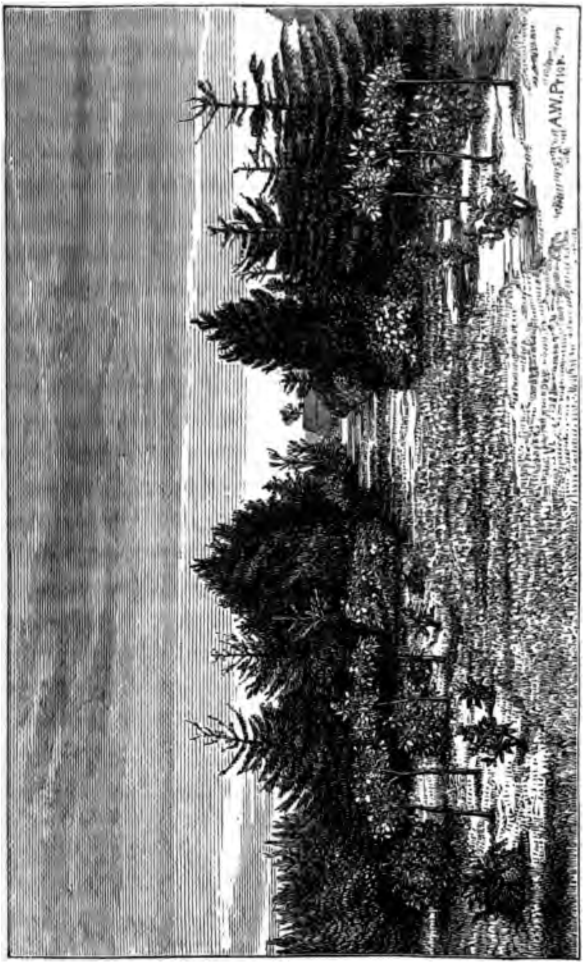


FIG. 1.—AN ILLUSTRATION OF ARTISTIC SHRUB PLANTING :—PORTION OF THE MAIN WALK, WALTHAM CROSS NURSERIES, FROM NATURE.

CHAPTER V.

On Planting and Transplanting.

Evergreen shrubs have one advantage over other large occupants of the garden, which is, the extended period over which they may be safely removed. It matters little whether they be taken up in autumn or late spring, or close upon the commencement of summer, though the latter date is to be preferred. Some even advocate their removal in August. It is the manner in which the operation is performed rather than the time which is of the chief moment. Indeed, transplanting generally depends for success upon the skill with which it is done, and the knowledge of the special root action of the plant subjected to the operation. Most evergreens may be taken up with a ball on account of their numerous fibres, which embrace and hold together the soil in which they are embedded, a circumstance greatly facilitating their taking healthily to fresh positions. At the nurseries it is the practice to lift shrubs every season, to accustom them to the process, and consequently fit them for ultimate removal, as well as to prevent the formation of "tap-roots," and to guard against their becoming

"lop-sided," in consequence of one part being more exposed to the action of a favourable aspect than the others. This lifting and turning the plant round ought always to be done in private grounds, particularly on lawns or isolated situations, every second or third season at least, to preserve a well-balanced configuration. In transplanting, whatever the subject may be larger than flowers, two "hands" ought to be employed, the one to throw out the soil and fill it in again, the other to manage the plant and roots during the process. The first-named operation is better done with a "fork" than a spade, which is apt to bruise and mutilate the tender roots. The hole to which the plant is to be transferred ought always to be ready, so that the roots may be exposed to the air for as brief a time as possible. If they must be left out of the ground for some time, they should be "laid in," that is, their roots put into a hole and the earth scattered over them, in some moist, cool, sheltered spot and covered over with matting till required for use. Shrubs, like other similar things, ought to have some good soil placed for their roots immediately to "get hold of." If this be heaped up lightly in the centre of the excavation, the plant being pressed down upon it and the roots being carefully spread out, this soil can easily be well worked into the interstices. Fill in with the same, pressing it down firmly, but not ramming it to the consistency of asphalte paving. Give a free watering afterwards, and stake securely with one or more supports according as bulk requires, and

mulch the surface round about the collar as far as the roots spread out till the plants are well established. It will be well to thin out ill-placed branches before committing them to the ground; and, should the plants be grafted, to suppress all suckers, or eyes, which would develop into such troublesome excrescences, unless they are suitable to detach for stocks. This last point ought not to be left out of sight, because suckers, with portions of fibre attached, planted in sandy soil, is one of the most successful and least troublesome methods of propagating plants. A wise cultivator will always avail himself of the opportunity of increasing his store, especially of costly kinds, by detaching such portions as are not required for symmetrical additions to the future shape of his plants whenever opportunity offers. A "mulch" is a layer, two inches or more deep, of any material, most commonly of stable manure, placed on the surface soil for some little distance round plants, so far as the roots below are supposed to extend. It is valuable to add to ground-heat and prevent evaporation.

CHAPTER VI.

ON PROPAGATION.

A MAN is but half master of the art of gardening unless he has some notion of the modes in which the *subjects* to which he devotes his attention are propagated or increased. Professionally considered, this is a mere matter of profit; to the amateur it is one of the most pleasurable amusement. The interest that is taken in the work of one's own hand and the product of one's own skill is infinitely greater than the choicest acquisitions of mere purchase, even though the latter be intrinsically the more valuable of the two.

The customary method by which plants are propagated are, 1st, by seeds; 2nd, by cuttings; 3rd, by budding; 4th, by grafting; 5th, by layers. Each of these has certain advantages according to the nature of the plants brought under their operation. Some do not seed readily, and others again bear seed of a character not easily subjected to the requisite treatment, such as "cones," the management of which requires considerable experience and skill. Seeds, moreover, in all cases do not reproduce individuals exactly similar in every respect with the parent types, so that other measures must be

resorted to where absolute identity is required. Too frequently they are so much inferior as to be unworthy preservation; on rare occasions only do they turn out to be improvements on the races to which they belong. This is especially the case with respect to shrubs, to which, of course, these remarks are intended specially to apply. Every amateur, however, ought to make himself acquainted with all the processes connected with his pursuit, not only to extend his knowledge, but also as an interesting recreation.

Of these, *budding* is, perhaps, the most easy operation amongst those which depend upon manipulative processes, contradistinguished from the mere sowing of seeds. At the junction of the base of the leaf-stalk with the stem of a plant will be perceived a plump body, which is an incipient branch. This is called the "eye." A small piece containing one of these is to be scooped out from the stalk, and the wood at the back being slipped out, leaves a piece of the bark attached to the leaf-stalk. This is the *shield*. The leaves being removed from the stalk, it is ready for use. A clean slit is then made in the branch or stem of the stalk to which it is intended to transfer it, and the sides of the incision being lifted up, the prepared shield is carefully inserted. It is then to be bound firmly in its place with a few turns of stout cotton, worsted, or thin strip of bast, the eye being left protruding as if in its natural position. If properly done a union will soon be effected, after which the tie should be loosened and finally removed.

Striking cuttings requires some degree of practical dexterity in selecting such as are just at the right stage for the purpose. The principle upon which the process is founded is that every portion of a plant contains within itself the rudiments of a new one, similar to the original from which it is taken, provided that it is placed under such conditions that Nature is enabled to perfect those points which are in the undeveloped stage, the chief of which is the emission of roots. When this object is effected, a new plant is produced. Plants of a succulent organization *strike* much more freely than those which are termed hardwooded. One of the chief stimulants to the production of roots is that which is termed "bottom heat," that is, a soil which has greater warmth than the atmosphere. This is generally obtained from a "hot-bed," which may be procured from any fermenting material, the warmth of which is moderate and continuous; manure is the substance which is most commonly employed; or the pots in which the cuttings are planted may be subjected to the genial atmosphere proceeding from hot-water pipes, or even a flue. In any case they ought to be placed in a moist atmosphere, and the soil in which they are should be moist also, and of a light, sandy texture. Under these circumstances a "callus" or swelling is formed, from which after a time young roots are emitted. Another point on which the success in striking cuttings depends is the exclusion of air from the leaves, at least till the formation of the "callus" is completely established. Generally speak-

ing, cuttings of hard-wooded plants should be selected from wood of one season's growth, sappy in quality, taken off with a "heel," as it is called; that is, slipped off from the parent branch or stem with a slight portion of the bark. The slip ought then to be put in a small pot, half full of fine "crocks," or pieces of pots broken up small, then a portion of sandy compost, with a layer of silver sand over the top. The whole should then be watered, and the cutting or cuttings inserted round the pot (according to its size), the "heel" just touching the crocks, leaving one or two pairs of leaves at most above the surface. When there is no "heel" the shoot may be cut just below a joint, stripping off the leaves from the lower part, which is to be inserted in the soil. They must then be covered with a bell-glass, or frame, kept shaded for a few days, and the moisture frequently wiped off the interior of the covering. After a time air may be carefully given, and when growth has fairly set in, which will soon be perceived, they may be gradually inured to exposure, and finally removed to less confined conditions.

A simple mode of treating cuttings of shrubs out of doors is as follows:—Let a piece of ground on the north or east side of a wall or palings, or in one of those "shelter screens" of evergreens now so much in use at the nurseries, be well coated with pit sand, and then dug over and mixed with it, finishing off with a surfacing of sand. Tread the whole firmly, and rake smooth. The cuttings may then be dibbled, or even thrust in: a

carpenter's pencil will make a good implement for the purpose. Tread them in firmly. You may then leave them to take care of themselves till rooted, only giving an occasional watering, and keeping them clear of weeds. When rooted they may be taken up and transplanted into nursery beds. For the more delicate subjects a hand-light, or oiled calico screen, placed over them will aid their rooting. Prepare the cuttings of the current year's growth taken off smooth under a joint. Remove all the leaves so far as is to be placed in the ground, leaving only two or three above the surface.

Grafting is a method of multiplying plants by a small piece of one plant being united to the stem of another. The portion to be united is called the "scion," that to which it is attached the "stock." The object sought is to induce them to grow together, so as ultimately to constitute a single plant. By this operation scarce or superior varieties are made out of common kinds. Thus a single plant of the higher class, being cut up into small pieces, each being successfully united to "stocks" of inferior kinds, may be multiplied into several. It matters very little in what shape the graft is made, provided the *inner* bark of the scion and stock are brought into contact, and retained so till united in growth. They must, therefore, evidently be cut to fit each other on one side at least, like splicing a whip or a fishing-rod, and this mode of grafting is the simplest of all. The two parts must be tied together, with cotton or bast, and



FIG. 2.—AUCUBA "STOOL" LAYERED.

covered with *grafting wax*, or, if out of doors, with prepared clay. These two substances had better be purchased than made by amateurs, for several reasons. A warm close atmosphere will promote the junction with more certainty and rapidity.

Layering is effected by bending down the long pliant shoots of a plant after having made a tongue in the under part at the point where they are to be pegged into the ground. This is ascertained by bending the shoot down in the first instance. Then with a sharp knife cut the branch half through, and then, turning the knife, pass it along two or three inches. Give the portion so cut a twist on one side, but take the two parts of the branch that are not entirely separated. Peg the prepared part into the ground, in a sandy mixture (see illustration 2), and leave it till rooted; after which detach it with a sharp knife from the plant, and transfer it to nursery quarters to grow on.

Seeds ought to be sown thinly, in light sandy soil, kept fairly moist, but not wet. So soon as they appear, and are sufficiently large to handle, they ought to be thinned out, and when large enough to be removed may be taken carefully out on the point of a small trowel, or even a knife, or, better than either, of an old spoon, and transferred to prepared pots of soil, or beds of light sandy compost, according to circumstances.

" A very good way of raising seeds of rare kinds is to sow between two turves, placed root to root, one on the other, and to watch them till the seeds begin to sprout;

they are then to be sown in the usual way, when every seed will usually be successful."—*Penny Cyclopædia.*

Some kinds of seeds require heat to secure germination. In such cases they must be sown in pans, chiefly in sand, and be placed in a warm position in the "house"—one specially devoted to propagating purposes.

Where it is difficult to propagate any kind of shrubs from cuttings, grafts, or layers, it may often be done by pieces of the root placed in earth in a hot-bed.



AUCUBA JAPONICA FOL. VAR. (*reduced*).

CHAPTER VII.

A DESCRIPTION OF VARIOUS KINDS OF THE MOST GENERALLY USEFUL SHRUBS.

SECTION I.—EVERGREENS.

THE AUCUBA JAPONICA—SPOTTED LAUREL.

(With Coloured Plate.)

THIS well-known shrub, with its noble leaves of cheerful green, thickly blotched or spotted with creamy yellow, is perhaps the most generally useful of evergreens, and when of large size and in good condition, is certainly one of the most majestic of the tribe. Thoroughly hardy, not particularly fastidious as to soil, indifferent to the unwholesome and smoky atmosphere of towns, and easy of culture, it is essentially an amateur's plant, and will amply repay by its increased beauty all the pains that can be taken with it. The common sort grows to about eight feet high, in the natural form of a well-clothed bush, throwing out numerous branches from the collar upwards, the top broader than the base, giving it, when well furnished, an extremely noble contour. Indeed, the chief difficulty in its culture will be to keep

up this appearance as to the lower part, inasmuch as under bad treatment and unfavourable conditions it is apt to become "leggy," as it is termed, a most unsightly feature in any plant. A short notice of the progress of this valuable plant will be useful as illustrating the history of the gradual progress of many exotic favourites of our gardens previous to attaining their present recognized position there.

According to Horticultural authorities, this shrub was first introduced into this country from Japan in 1783; and, like many other plants from the same region, was considered too tender to be exposed to the open air. It was consequently subjected to stove treatment, being looked upon as a mere botanical curiosity. Experiment, however, after a time, proved its complete hardiness, when it speedily attained general popularity. One drawback, however, prevailed in the eyes of its admirers, which was that of its infertility, and consequently propagation was necessarily carried on by means of the usual system of grafts, cuttings, and layers, no seeds being able to be obtained. A great stride, however, in the progress of this plant has taken place within comparatively a few years, owing to the introduction of the male plant, a glance at the history of which may be of interest here. Siebold, the great botanical collector, brought with him from Japan several varieties of different sizes and markings of the leaves, but all turned out to be *female* plants. Later on, however, Robert Fortune, that most successful plant-discoverer, contrived to



FIG. 3.—SPRIG OF AUCUBA WITH BERRIES.

obtain a male plant, and brought it to this country, when it passed into the hands of the late Mr. John Standish, of Bagshot. This specimen was the only one Mr. Fortune had been able to obtain, but it was in such sorry condition on its arrival, from the trials of the voyage, that it was only brought round by the exercise of the utmost care and skill. It, however, grew and prospered. The pollen was utilized, and thus berries were able to be produced, with the consequent possibility of obtaining new forms, as well as adding a most valuable augmentation to the section of berry-bearing plants. The berries of the Aucuba are long oblong drupes, like those of the laurel (*see* illustration 3).

Now we have several beautiful varieties. As to its culture little need be said. It is propagated by means of cuttings, layers, grafts, and seeds. How far the latter may be depended upon to reproduce the original types the writer is unable to affirm, but certainly some beautiful new varieties have been obtained. Layering is conducted in the usual manner, and this operation is perhaps the best for multiplying plants. Select a well-grown specimen for the purpose about the end of April or the beginning of May, having plenty of nice young branches as close as possible to the collar. Bend these down, and, at a convenient position on the ground, make the tongue as usual, peg them into the earth about two or three inches deep, placing a handful or two of fine sandy soil round the incision, cover well up, and leave them for a year without disturbance, so as

to give time for the emission of plenty of roots. After this they may be transferred to nursery beds and grown on, till they become well established for further use. Although its usual form is that of a spreading bush of goodly size when of sufficient age, it is not, however, generally known—or at least carried out in practice—that the Aucuba may be trained as a standard. In this form it is both an elegant and striking object. To produce it, let a straight stem be selected two or three feet high. Let all other branches be removed, and all side growth be rigorously suppressed by "thumb-pruning," *i.e.*, rubbing off the "eyes" as soon as they appear, and the top cut off to induce buds to break for the formation of the head. In arranging this evergreen for the borders, a few plants of the male varieties ought to be interspersed amongst the ordinary kind (female), when the agency of the insect tribes will effect the necessary fertilization, and berries more or less numerous, in due season will appear. Male plants may be obtained by grafting scions on the female, and so converting them into the required sex. To raise plants from seed, sow the berries when they are to be had, in April or May, in light sandy soil, in a cold frame. Cuttings of short side shoots, wood somewhat firm, strike easily in August if planted in sandy soil, in a sheltered border out of doors, or in a frame, as done with the seed. They require to be treated when rooted much as the young plants raised from layers are dealt with.

Aucubas may be cultivated in pots for the embellish-

ment of the conservatory, or for any positions in dwellings, in the window and balcony, where plants are usually employed. The following is the management as commonly practised. Let the pots be new or at least clean, and well drained. The soil ought to be rather light and rich. Select plants of a symmetrical well-balanced outline, specially well furnished with branches near the collar. They ought to be healthy of course, which is indicated by the glossy surface and substance of the leaves. When young they may be shifted once every season, afterwards every second. In time they will of course become too large for pot purposes, and may be transferred to the garden. They must be kept out of doors as much as possible, plunged in coal ashes. In smoky atmospheres the leaves ought to be frequently cleansed with water. Pruning when requisite, ought to be done in the Spring, they bear the application of the knife very well.

Amongst the numerous varieties now in cultivation, as given by Mr. William Paul and Shirley Hibberd, we have selected the varieties below as most suited for the class of cultivators for whom these directions are intended, who naturally require only a small collection.

FEMALE VARIETIES.

Aucuba Japonica fœmina aureo-maculata (female, gold-blotched).—Very handsome, large gold blotch in centre of leaves.

A. Jap. fœm. lati-maculata (female, broad-blotched).—Distinct leaves, broad central band of golden yellow, rich yellow spots.

A. Jap. fœm. Youngi (female, Young's).—Grand variety, leaves deep glossy green, berries of great size, very freely produced in large clusters.

A. Jap. fœm. viridis (female, green-leaved).—Neat, compact, remarkable for profusion of berries, deep green leaves, fine for indoor decoration.

A. Jap. fœm. Walthamensis (female, Waltham).—*New*, splendid rich bar of deep yellow down the centre of the leaf, very beautiful and showy. Excellent for pot culture as well as a border shrub. The finest variety possibly yet obtained.

Male Varieties.

A. Jap. mascula bicolor.—Handsome and distinct leaves, generally half green and half yellow.

A. Jap. mascula maculata (*see* illustration 4).

A. Himalayica (Himalayan).—A fine addition from another section, Indian, somewhat new.

There are several others, perhaps equally good, which may be adopted at the recommendation of the nurseryman.

The Berberry or Barberry (*Berberis*).

This tribe, including the *Mahonias* (so named by Nuttall in honour of Bernard M. Mahon, an American horticulturist, author of some works), deservedly ranks

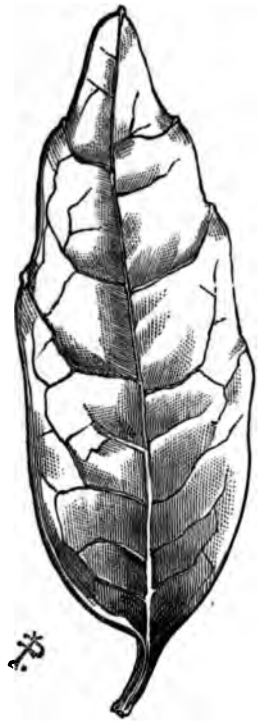


FIG. 4.—LEAF OF MALE VARIETY, REDUCED.

amongst the finest of evergreen shrubs, though some few varieties of the common type (*Berberis vulgaris*) are deciduous. They combine the properties of flowering and berry-bearing in a remarkable degree, and in some cases supply "colour" in their unique and handsome foliage. There is scarcely a limit to their advantageous employment. Indeed, it is doubtful whether the garden possesses an object of greater beauty or utility, their easy culture especially commending them to the notice of amateurs. Yet, how seldom do we find them intermixed in small gardens, with the Aucubas, the Box, the Euonymus, and others, in company with which they would be quite at home, and the appearance of which they would so much improve. The flowers are for the most part bright yellow, freely produced, some of them having a delicious scent something between that of the Daphne and tea rose. The berries are oval, mostly rich purple in colour, clustering in bunches somewhat like grapes of the smaller size. Bunches of some varieties have been gathered, it is said, of a pound weight.

The soil in which the Berberis delights, is of a rich character, such as deep sandy loam, though it will do very well in that of ordinary gardens. It prefers moist shady situations, thriving well even under or near trees, which is one of its valuable qualities, such positions being injurious to most plants. It is propagated in various ways, but its habit being bushy, it throws up suckers freely, which may be taken off with a few fibres attached. These will root easily if planted out. This

habit also renders it suitable for layering. Cuttings also strike freely, taken off in the autumn and planted firmly, like rose cuttings, in sandy soil.

The prince of the race perhaps is *Berberis Japonica*, a plant of rare excellence. "It is doubtful whether our gardens possess a shrub which can compete with it in general beauty. Its foliage is magnificent and unique, its flowers are delightfully and powerfully fragrant, and its fruit forms a very striking feature in itself, and withal it is perfectly hardy and evergreen. A strong healthy plant will produce leaves eighteen or twenty inches long. These are usually composed of four or five pairs of leaflets and a terminal one, the latter being often six inches long by four or five broad." (Vol. 1. *Floral World.*) We have already alluded to the flowers and their fragrance and the berry, in the introductory remarks to this class. It was sent to this country by the celebrated collector, Mr. R. Fortune, who has given the name "*Fortunei*" to so many plants of his discovery. It is as well to observe that this variety grows to large dimensions, and is therefore only suited to spacious places. The *Mahonias* are beautiful dwarf evergreens, with bright glossy foliage, growing thick and rich, bearing in the Spring close bunches of cheerful yellow flowers. These are succeeded by rich purple berries. They afford very striking variety amongst the borders, and ought to come into view, as they are well-furnished to the ground:—for this reason they are well-suited to stand singly on small lawns, or on mounds, or in the front of borders and beds.

Standard Berberies are not generally seen or known, yet with a little care they may be produced, and are really such beautiful objects, their foliage being so rich and bright, to say nothing of their charming appearance at the seasons of flower and fruit, that it is surprising they are not common. A standard of *B. Japonica* would be a charming picture-object, with its magnificent leaves drooping downwards. To grow them in this form, select some of the straightest and stoutest suckers, and root them as before directed; taking care to remove every side shoot that appears during growth, till the height desired has been attained. The leader should then be stopped, and the head formed by the usual manner of treatment. Of course this will require time, but the result will amply repay the exercise of a good deal of patience and care. During growth, and indeed afterwards, the stem will require support. The following directions for raising them from seed, are abbreviated from "Glenny's Handbook." The seed should be washed out from the soft berries and dried. A bed, with a portion of peat dug amongst ordinary soil, should be prepared, the seed sown thinly upon it, and raked in. Keep the bed clean from weeds and watered in dry weather. When up the seedlings may remain till large enough to plant a foot apart; if they are too close, they "draw up," and are ugly. This advice is good, as Berberies are naturally close bushes, and wherever used care ought to be taken to keep them to that shape, as neat and compact as may be.

Some of the most distinct and useful varieties will be found among the following.

Berberis Asiatica (Asiatic), handsome evergreen, dense growth.

Berberis Darwinii (Darwin's), (*see* illustration 5) flowers deep orange, May, purple berries.

Berberis dulcis (sweet), yellow, April.

Berberis empetrifolia (crowberry-leaved), creeping habit, not quite hardy, yellow, May.

Berberis stenophylla, bright orange flowers, Spring ; an exquisite little gem. The sprays in bloom make beautiful additions to cut flowers.

Berberis repens (creeping), only 2 feet, yellow, May.

In this instance we shall also give the deciduous kinds to avoid referring them to a separate list.

Berberis vulgaris (the common).

Berberis foliis purpureis (the purple-leaved), very distinctive and effective on account of the contrast afforded by its foliage to other objects near.

Mahonia aquifolia (prickle-leaved), yellow, in May, purple berries.

Mahonia Bealii (Beal's), a magnificent plant, likes the shade, yellow, March.

THE BOX TREE (*Buxus*).

This useful evergreen in its ordinary form, as known through the scrubby specimens to be seen in the forecourts of towns and such like places, or in ragged



FIG. 5.—SPRAY OF BERBERIS DARWINII.

edgings, has little to recommend it to the admirers of picturesque objects in the garden. Nevertheless, there are some of its varieties well worthy of a position amongst the highest class of shrubs of more imposing appearance, from their neat and compact habit and foliage contrasting so admirably with other objects of more ample dimensions and luxuriant growth. The common kind is that so well known as edgings for beds and walks, but it is the various sorts of tree-box (*Buxus sempervirens arborescens*) evergreen tree-box, that are so valuable in the shrubbery, and which really in time attain the dimensions of respectable trees, close and dense in foliage, of a very useful tone of green in the ordinary kinds, and a cream or yellowish neutral in the variegated forms. Of these "Argentea" (silver), "Aurea" (golden), and "Glauca" (whitish green), are the most noteworthy. "Latifolia," and Handsworth (broad-leaved), (*see* illustration 6), is particularly handsome, from its substance and relative dimensions of its leaves; "Salicifolia" (willow-leaved), gives an elegant contrast from their slenderness, resembling much in character a small-leaved myrtle. "Rotundifolia," a fine grower, is very attractive in many situations. Tree-box is best grown in the form or pyramids, very handsome and compact in outline, or of standards; some may be trained to assume a weeping habit. Such specimens look well upon small lawns, or the middle or forepart of borders, as a contrast to other shrubs in shape and colour. When grown as bushes, much care must be exercised to prevent box from be-

coming scrubby and ill-furnished with branches about the collar and base, a state which detracts much from the beauty of any shrub.

Box will grow in any tolerable garden soil, but prefers good loam. Though completely hardy, it is scarcely to be seen in good condition where the drawbacks of a smoky, impure atmosphere prevail, which is evident from comparing the stunted smoke-dried specimens usually seen in town gardens with the bright and healthy productions of rural districts, where it becomes a really striking object.

From its close growing dense habit, it is excellently adapted for clipping into various shapes, a quality which recommended it to the gardeners of past times when the fashion prevailed, happily out of date, of producing fantastic monstrosities and designs in vegetation, by the aid of the shears.

The most showy and useful varieties for cultivation, *B. Balearicus* or *B. minorca*, grows to 8 feet. *B. argentea* (silver), a pretty dwarf for the front of borders; *B. aurea* (golden); *B. latifolia* (broad-leaved); *B. rotundifolia* (round-leaved), and "*Handsworth*," the handsomest for foliage; *B. salicifolia* (willow-leaved), leaves narrow and elegant; and *B. marginata* (gold-tipped). That used for edging is named "*suffruticosa*." The tree-box is capable of being trained as a standard; but when of sufficient size to be so treated is usually clipped into a smooth cushion-shaped bush. The various sections are generally propagated by layers, which require to be



FIG. 6.—SPRAY OF HANDSWORTH BOX.

carefully made, as the branches are unusually brittle, or by cuttings put in about August.

To lay down box edgings take the stock pieces, strip them into small pieces, and replant. Each piece should have a little root if possible, but strips without will do. Cut off the long wood from the bottom if it is likely to make the row uneven. In opening out the trench for replanting, let the side next the border be perfectly level and firm to lay the box against. The new edging can then be laid down in a workman-like manner without much difficulty, and properly fastened. It is no use to expect the box to do much good if the soil is filled in loosely.

COMMON LAUREL (*Laurocerasus*).

Of all the garden shrubs, there is none so generally known as this. It appears equally popular in town and country, but although a fine free-growing subject, with large strong leaves of great substance, of brilliant varnished green, seemingly impervious to smoke-drying influences, it cannot be classed as the first of shrubs, notwithstanding its great utility. It may, however, be considered indispensable, even in the smallest collection of genuine evergreens. This valuable shrub attains in time to the stature of a noble bush, and then under favourable conditions is furnished in early Spring with long spikes of white blossoms, in which state it is not often seen. It makes an admirable terminal boundary, and masses finely for the background of belts or

spacious borders. It will flourish in any fairly good soil, and is increased usually by layers or cuttings. Seeds are also sometimes used for its production, the treatment of which differs in no way from that usually pursued.

Besides the common variety there are:—

L. angustifolia (narrow leaved), an elegant shrub.

L. Colchica (Colchis), a very handsome kind, with pointed leaves.

L. Caucasia (Caucasium), round leaves of great beauty.

L. ovata (oval), very handsome, new.

L. Lusitanica (Portugal). This, the well-known and highly ornamental shrub usually grown as a standard, is one of the most elegant of dark-leaved evergreens, and may be kept long as a handsome bush for the front borders, matching very well with the *Laurustinus*. The more popular form, however, is that of the *Standard*, in which it much resembles the orange tree, and has a very exotic and pictorial effect when skilfully planted. The manner of producing this we shall now proceed to describe. A young plant, having a stout leading stem must be selected. The side branches must be removed, a few at a time every season, and the leader encouraged to grow to the required height. When this is reached the usual steps must be taken to induce the formation of a head; the branches being evenly trained till the basis of the general shape is attained, care being used to suppress every eye that appears up the main stem. It will be a work of time, as well as skill, to complete

the formation of a symmetrical well-furnished head, and consequently standard *Portugal* laurels are expensive. When once formed, however, they will stand for years with little care besides watering. They are very frequently grown in tubs or boxes, as objects for formal decoration. They are also valuable and picturesque in the Italian garden. This beautiful evergreen may likewise be trained in a pyramidal form, valuable in numerous situations. *Angustifolia* (narrow-leaved Portugal laurel), is one of the handsomest dark-leaved evergreens, somewhat resembling the Laurustinus, for which it may be substituted unless flowers are required.

THE EUONYMUS (*Spindle-tree*).

This genus comprises a group of singular elegance and neatness, very distinct in their habit of growth, and very easy of cultivation. With half-a-dozen other genera, they are absolutely indispensable to gardens of limited dimensions, and in towns, and are equally so to pot-culture for whatever purposes. Their foliage is of a bright bluish tone of green, of smooth varnished texture, midway perhaps, as to size, between that of the box and of the small leaved laurel, and affording a good substitute for the arbutus where that cannot be grown. They may even be trained against a wall. Certain of its varieties have remarkable gold and silver variegations. "*Flavescens*" (Wm. Paul) is perhaps the richest yellow-leaved plant we have, and is unequalled when young for bedding schemes, as a rich chrome more intense

perhaps than the buttercup, or as a yellow shrub four feet high. Other races have perhaps equal good qualities, but none surpass this in general utility. The growth is somewhat upright and compact. It is fairly hardy; though its leaves become touched in exceptionally severe winters—still it is difficult to kill outright. For indoor decoration, window boxes, balconies, and such-like places, the limited fore-courts of town residences, or even the area, it is equally well adapted, thriving in moderate soil and requiring only an ordinary amount of care and cultural skill. Indeed there is no better evergreen for town amateurs or small gardens.

The *Euonymus* is propagated by layers, managed in the usual way, or by cuttings prepared like other cuttings, and planted in sandy soil under hand-glasses. They may also be raised from seeds, though that mode does not appear to be much practised. There are several variegated kinds, amongst which "*flavescens*," previously named, is one of the most effective foliaged plants for beds, forming rich yellow masses of a colour scarcely to be matched by any other hardy plant—especially as to endurance.

Euonymus Japonicus may be considered as the type of the class. This is a compact shrub, with leaves as already described.

E. flavescens (yellow), a beautiful shrubbery and bedding plant, chrome yellow, very effective.

E. aureo-marginatus (golden-edged).

E. aureo-fol. var. (silver-edged).



FIG. 7.—GARRYA ELLIPTICA.

E. fol. aurea (gold-leaved), the old kind, with a deep yellow stripe down the leaf lengthwise; good for pots and window-boxes. A very handsome kind, but in soil too rich the yellow variegation declines.

E. macrophylla (large-leaved), fine broad dark leaves.

E. radicans roseo-marginatus (rosy-edged), spreading.

E. radicans roseo-variegata (rosy-variegated), very hardy; both these are very effective edging-plants, or for the front of shrubbery borders, or training at the foot of low walls, or for rockwork and similar uses.

The *Deciduous Euonymus* has the following varieties worthy of culture:—

E. Europeus (European), flowers white, fruit scarlet.

E. atropurpureus (dark purple), a beautiful and distinct shrub, leaves decaying to purple and scarlet.

E. latifolius (broad-leaved), foliage almost as fine as that of a Camellia.

GARRYA ELLIPTICA.

Is a favourite hardy evergreen shrub, usually classed with the flowering section, and yet, notwithstanding its merits, comparatively speaking, seldom cultivated in gardens. In character it is sober rather than brilliant, which may be one reason for its scarcity, although its appearance is so distinct and graceful. Its chief beauty resides in its long catkins of a yellow-greenish colour, which in the winter hang down in elegant tassels from the ends of all the shoots in a striking and graceful manner. In the corner of the accompanying illustration a represen-

tation of a separate catkin will be seen. It is these which constitute its claim to be ranked amongst the flowering shrubs, though from its lack of colour we have not placed it so. Although its natural form of growth is somewhat bushy, to which it can be kept by the free use of the knife, it is frequently trained against walls. It may also be made to assume a pyramidal form, in which it is a remarkably elegant object. From its easy culture it is surprising that it is not more frequently used for pots, particularly as it blooms when of very small size, in which stage it would form a novel and attractive object for table decoration. Its average height is about six feet, and its usual period for flowering is October. The soil ought to be good loam, not too adhesive, and it is best propagated by layers, though cuttings will strike freely under a hand-glass, if put in towards the end of summer. From its highly distinct character it is well worth the attention of the amateurs of high-class shrubs, and a few plants of it ought to be included even amongst small collections. It was introduced from California in the year 1828. (*See* Illustration 7.)

THE HOLLY (*Ilex*).

With Two Coloured Plates.

The holly, *Ilex aquifolium* (prickly-leaved), may be deservedly termed the Prince of Evergreens, as it also holds the first rank amongst the berry-bearing tribes. Indeed, its importance is such, that to treat of it fully



LEAVES OF GOLDEN HOLLIES.

1. Maculata aurea.
2. *Golden Queen.*
3. Obscura.
4. Picta.

in its history and other points, would require a monograph to itself. There is none superior, perhaps equal, as an ornament from whatever point it is viewed and in whatever situation it is placed. In an article upon hollies Shirley Hibberd writes :—"Hollies are always beautiful even if out of place, and they are so adaptable to every kind of scene, the finished belt, flanking a flowery lawn, the less artistic shrubbery, the sequestered walk, the dark wilderness, or the nook beside a cottage wall, that it is no easy matter to plant them where they ought not to be. Fine single specimens, towering up conspicuously at the break of a walk, or assisting to enrich masses of mixed evergreens, are amongst the noblest elements of the gardenesque; and for masses there is nothing to surpass them for splendour of foliage, and their glorious colouring when loaded with berries." To this the author would add, they are amongst the best subjects for ornamental hedges, and may be kept trim and tight, impervious to unwelcome intruders, by a very moderate use of the shears. The natural habit of many of the kinds also supplies illustrations of various modifications of the cone, the cushion, the pyramid, and the bush, all being remarkable for the compact character of their foliage, never, except under very adverse circumstances, degenerating into leggy plants.

It will be a convenient plan of arrangement to consider this indispensable member of the evergreens under two leading divisions, viz., the green-leaved and the variegated, both equally ornamental, the latter being merely

variations of the former. *Ilex aquifolium* (prickly-leaved) is the appropriate designation of the common holly, too well known to require particular description. Though usually grown as a shrub, with time—for its growth is slow—and favourable conditions, it really becomes a tree, of handsome pyramidal form, as we have before observed, reaching an altitude of 20 feet and upwards, before which time it will become unfit for the ordinary shrubbery, and ought to be removed to the lawn, the plantation, or other suitable position. The soil it prefers is a deep rich loam, approximating towards a sandy rather than a clayey texture. On a dry bottom so much the better, as it detests wet or boggy soils. Nevertheless, it will flourish very well in shady places, where its rich glossy leaves become greener and more varnished—that is of the green varieties. The coloured retain their distinctive marking better in light and airy positions, in soil somewhat less rich in nutriment than that which suits the type.

Hollies may be propagated in various ways. Seeds, that is the berries, seldom give any novelty worth retaining, but they may be used to produce a supply of stocks on which to graft the finer or more delicate sorts. It is tedious work, however, as the holly is one of the slowest of slow growers, and quite beyond the patience of amateurs. When the plan is adopted, the course is briefly as follows. Gather the berries as soon as ripe, mix them with a portion of sand, and lay the heap in some corner for twelve months or so, till the pulp is rotted away. After that time sift out the seeds, sow



LEAVES OF SILVER HOLLIES.

1. Silver Queen.
2. Argentea elegantissima.
3. Argentea lucida.
4. Lævigata.

them, say in February, in a bed of rich soil, but not heavy, protect from frost as they come up, and take the chance of their being worth the trouble after all. Layering is difficult, because of the brittleness of the wood. Therefore cuttings—young shoots of the year taken off with a heel, and dealt with after the usual fashion, are the surest sources of increase, though they require four or five years to make a likely plant. Grafts may be used to multiply the choice sorts. Budding, where stocks are at command, may also be practised with tolerably certain results. Let this be done about June or July when the bark will readily lift, in a similar manner to that employed in budding the rose.

Green-leaved.

Ilex Handsworthiana (Handsworth).
Ilex nigrescens (black).
Ilex atrovirens (very dark).
Ilex Hendersonii (Henderson's).
Ilex Hodginsii (Hodgins').
Ilex Shepherdii (Shepherd's).
Ilex Fortunei, smallish but beautiful leaves; dwarf.
Ilex ovata (ovate-leaved).
Ilex laurifolia (laurel-leaved), small and smooth-edged.
Ilex Balearica, lighter green.

Besides these, at the Waltham Cross grounds there is a low-growing, small-leaved, compact holly, *as it is believed to be;* but the name of the plant does not appear to be

exactly known. This charming variety was sent to Mr. William Paul a few years ago by the Chaplain to the British Embassy to Japan.

Variegated.

The gold and silver forms of *aquifolium*, also of *Maderiensis;* gold and silver-blotched *Aurea maculata* and *Argentea maculata*—*gold* and *silver queen*, the latter with a pinky tinge in the creamy edging—*painted lady*, *milkmaid*, and *Waterer's*, one of the very best. The last-named makes an excellent standard or pyramid, budded on inferior sorts. Naturally, it is one of the most compact and symmetrical conical bushes of the whole race. *Ferox* (hedgehog) is a small-leaved kind, bristling with spines, whence its name: it likewise has golden and silver varieties. *Tortuosa* (twisted), with the *feroces*, are more curious than beautiful, at least, in the author's opinion.

The variegated kinds are amongst the most effective neutral-colour producers in the mixed border. Their different habits of growth also are of the highest value for producing contrasts in form.

Many hollies form, naturally, dense bushes, broad at the base, and round or conical at the top. In others, the pyramidal habit is more fully developed, and it is these latter, for the most, which assume, ultimately, the tree-like form in which the plant is sometimes seen; but it requires a long, long time, however, to reach such a stature. Hollies are somewhat costly on account of



FIG. 8.—IVY SCREEN AT WALTHAM CROSS.

this slowness of growth. Several of the numerous varieties of the holly pass under so many different synonyms in trade catalogues, that it is almost indispensable that purchasers should see them growing for themselves, so as to order them under the names by which they are known at the particular place, instead of ordering them from the catalogues.

The Ivy (*Hedera*).

With Coloured Plate (*see* Frontispiece).

Amongst all others of the evergreen tribes the Ivy and the Holly may be considered essentially English plants, on account of having been so intimately associated, from time immemorable, with the cherished festivities and ceremonies of Christmas-tide. To trace out the origin of these popular usages is foreign to the design of the present treatise; it is sufficient to allude to them as conferring additional importance upon objects possessing in themselves such numerous claims to the highest estimation.

Perhaps at first sight there might appear some incongruity in classing Ivy amongst the shrubs, to those whose knowledge of it is confined to seeing it clothing ruins with its rich green verdure, or roving at will over any object against which it can find a support. (*See* illustration 8: an ivy screen in Waltham Cross Nurseries.) This is only one of its forms, however, others of which are as arborescent as the bushiest shrubs. Tree ivies, as these

are called, when properly treated, become compact bushes of considerable size and beauty, second to none in decorative effects wherever employed, and, many even of the scandent varieties may be trained to assume a bush-like form, whether as columns or pyramids, (*see* illustration 9, ivy pillar,) cones or cushions. Indeed, the ivy is one of those plants, the capabilities of which are only limited by the ingenuity or fancy of the cultivator, and to which scant justice is done, from foolish persistance in stereotyped methods of cultivation, instancing how the faculty of invention appears to be rather repressed than encouraged amongst the common run of the horticultural fraternity. It is to this order of minds, unhappily so common, that practices and notions which will not bear the test of intelligent examination owe their continuance so long.

It may not generally be thought that it is quite possible to grow some kinds of ivy as Standards. These must of course be selected from the strong growers, and a straight stem taken up and treated till the plant is formed like any other standard. What a substantial stem the plant will attain with time, may be ascertained by examining the main trunks, so to speak, of ancient specimens, such as may be seen for instance against the old Tower of Tottenham Church. Again, the diminutive and more delicate forms, some of which are of the most artistic conformation, are admirably suited for table decorations, not merely cut to mix with dressed ornaments, but specially grown for the purpose in pots, which



FIG. 9.—IVY PILLAR OR COLUMN.

may be dropped into ornamental receptacles, or the pots surrounded with mosses or lycopods, or even arrangements of live bright flowers in charming contrast. In large pots again, as pyramids, for outdoor use, or trained over frames, in conical or pyramidal forms on the lawn, or wide verges, or corners of terrace walks, certain of the strong growing ivies develop into noble objects, easy of culture, and invaluable as affording striking contrasts with other forms. Ivy will grow well in almost any soil, but delights in fine loam, and will amply repay the labour of love bestowed upon it by the enthusiastic cultivator.

GREEN-LEAVED IVIES AND THEIR VARIETIES.

Hedera Algeriensis. Handsome, large leaves, growth rapid, brilliant foliage comparatively light tint of green One of best for walls, pillars, and similar positions. This has a variegated form catalogued.

H. Canariensis (Irish ivy). Perhaps the most serviceable, even amongst the finest ivies, for rapidity of growth, adaptability to various soils and climates, and rich luxuriance of leaves. For the first year or two after being placed in position, it should be trained up.

C. aureo-maculata (gold-blotched), is a variegated form of the above, very effective if well grown. The mixture of colouring is very peculiar, some leaves being partially marked with yellow, some wholly so, others only tipped, and others again are entirely green. It is a fast grower, and very lively in juxtaposition with darker varieties.

C. arborescens (Irish tree-ivy).—It is well to remark here, that more than one of the sections of ivy appear to have a "tree" as well as a "scandent" form; and also have "sported" into yellow and cream variegations. Of this class we have *Alba lutescens*, *Foliis argenteis*, and *Foliis aureis.*

Latifolia maculata (marble-leaved), is a very striking and handsome variety, with large leaves, clouded or ingrained, as it were, with creamy and amber-greenish tints. One of the best, and very pretty against other varieties.

Rægneriana and its variety, *arborescens*, is one of the grandest of the ivies with magnificent foliage. *Digitata* and *Kenwoodii* (sometimes *Caenwoodii*), also *Pedata*, are remarkable for the finger-like length of their lobes. *Lucida*, or the Poet's Ivy, *Sagittæfolia* (arrow-leaved), and *Taurica*, are all beautiful kinds. *Palmata* and *Palmata aurea* are likewise good.

Hedera helix (the English ivy).—The cultivated sorts partake much of the character of the wild type, the veinage being particularly well defined, much increasing the beauty of the leaves. In this section (*helix*) we have again the arborescent (tree-like forms), and the gold and silver margins or variegations. As these have, for the most part, identical properties with their types, except in colour, there is little need for particular description. The tree ivy, however, demands a little more attention, as that may be denominated the shrub form of the ivy, in contradistinction to its ordinary habit, which affiliates it to the large-growing climbers. Per-

haps it is not too much to say that a fine and well-grown specimen of this class is not to be surpassed in appearance by any other amongst shrubs, and certainly its other excellent qualities entitle it to a prominent rank for general utility. As specimen bushes on lawns, to conceal gracefully obnoxious corners, to form noble-headed drooping standards, or closely-grown pyramids, it is equally at home and equally attractive. The proper method of producing standards is somewhat alike in all cases, and is alluded to on p. 86.

There is a particular use of the Ivy, not often remarked, which is the wide adoption of the forms of its leaves in artistic design. An illustration of some of their elegant contours and proportions, as well as their chaste style of colouring, will be seen in the Frontispiece.

It is as well to observe there is a great difference in the catalogue nomenclature of the varieties of *Hedera* and *Helix*. Those desirous of a more extended knowledge of the Ivy would do well to obtain Shirley Hibberd's elegant monograph upon the subject.

LAURUS NOBILIS (*Sweet Bay*).

In climates of a genial character, and in suitable positions, this is a very distinct and valuable shrub of highly-finished outline, arriving with age to the height of a tree of fair stature, less the stem. It still retains, however, its well-furnished, conical outline, reminding us of the "Jack-in-the-Green" of early days. We have seen per-

fectly even and symmetrical specimens of this elegant subject eight or ten feet high, standing in pairs, like gigantic sentinels, in the corners of the junction of walks, or upon the turf of promenades. It is also, when well established, a grand object upon spacious lawns. It cannot, however, be considered a truly hardy shrub, being wholly stripped of its leaves in severe winters, though it may not be killed outright. It is better suited for spacious places than for the ordinary shrubbery borders, from which it ought to be removed as soon as its dimensions expand beyond its position, nor ought it ever to be planted in a bleak exposure. As a low close bush it will associate well with the *Laurustinus*.

THE OSMANTHUS.

An elegant and fairly hardy evergreen of moderate growth, which cannot be too highly recommended, of a holly-like character in its foliage, and of a particularly refined and finished appearance. We are unaware whether this plant is ever used for pot cultivation, but believe that in its young state it would form a singularly beautiful decoration for rooms or tables. It appears to thrive in the same soil and under the same treatment as the holly, and is increased by the same modes of propagation. The *Osmanthus* is sometimes grown in the form of a standard.

O. ilicifolius (holly-leaved).

O. variegata (variegated).

THE PHILLYREA.

In the designation of this desirable shrub we have an instance of the recondite origin of the names of some plants — "Phullon" leaf, "Philyra," the mother of Chiron, changed into a tree. The *Phillyreas* are useful border evergreens, especially on account of the dark colour of their leaves, being excellent contrasts to the brighter-toned greens and gold and silver variegations. Moreover, there is a sharp crispness about their contour which adds to their effect, and they are stout and varnished in texture. They thrive for the most part well in good garden soils, and are increased by layers and cuttings. The most commonly used are—

P. media, a good hardy evergreen.
P. angustifolia (narrow-leaved).
P. lævis (smooth-leaved).
P. latifolia (broad-leaved).

THE PRIVET (*Ligustrum*).

This neat and most useful hardy shrub is one of the commonest and best known of all. Many of its varieties really belong to the deciduous section, although some of the choicer sorts are evergreen. It is likewise both a flowering plant and a berry-bearer, and conspicuous enough from either point of view to be affiliated to the tribes remarkable for those two important features in adorning the garden. Although the dull white

flowers, resembling in some respects a diminutive bunch of lilac, have no great pretension to ornamental appearance, nevertheless the flowers have a pleasant odour, which appears to be particularly attractive to the bees. The privets have for the most part medium-sized foliage and wood, with rather an erect habit of growth. In these respects they class tolerably well with the *Euonymus*. *Ligustrum vulgare* is a valuable hedge-plant, and requires to be cut back closely once or twice a year. They thrive best in sandy or chalky loam; but from the positions they are seen in in town gardens, where the soil is usually not of the first order, and of very different staples, it would appear that they are as accommodating in this respect as plants can well be. Privets are increased by cuttings and by seeds. The rarest varieties are sometimes grafted upon stocks of the common kinds.

EVERGREEN.

L. coriaceum (leathery), a dwarf-branching kind, with very thick leaves, in texture almost resembling some of the "succulents." Suited for the fronts of borders and for rockwork.

L. sempervirens (evergreen), very desirable, has handsome stout leaves, dark green.

L. sempervirens pendula (weeping privet).

L. sempervireins pendula variegatum (variegated weeping privet).

L. ovalifolium (oval-leaved), large foliage for its class: also—

L. lucidum (Chinese privet), *L. Japonicum* (Japan privet), are two of the best varieties.

Besides the common privet, the following, in the deciduous class, are well worthy of adoption, where space permits of representative shrubs:—

L. vulgare variegatum, the variegated form of the common privet.

L. xanthocarpum (the yellow-berried). This variety is a valuable addition to the berry-bearing class, on account of its colour.

SECTION II.—CONIFERS.

The conifers—so called from bearing cones instead of seeds of the ordinary kind—though for the most part lofty trees of considerable dimensions, nevertheless include not a few desirable and interesting evergreens,—veritable shrubs, some even of diminutive size. Nor are these inferior either in beauty or utility to any other evergreens, and being of a strikingly distinct character from any other race, they occupy most important positions in schemes of ornamental planting which could not otherwise be satisfactorily supplied. Indeed, for a time, almost all of them, except the very rapid growers, are quite as much at home as the most recognized adjuncts to the shrubbery or lawn, being in keeping on the latter for a longer period

than in the beds or borders. The contrasts produced by the diversity in form and colour of the coniferous tribes, when associated with those of ordinary shrubs, may be made to produce many pleasing and artistic effects. Nor is their culture more difficult or troublesome than that pertaining to other occupants of the garden. For the most part hardy—flourishing, indeed, in bleak climates, where no other members of the arboreal family will exist—and by no means particular as to soil, it is surprising they are not more frequently introduced into our gardens instead of the scrubby syringas, lilacs, and such-like common things, that too frequently disfigure in place of ornamenting them. Their comparative neglect is a potent illustration of the want of knowledge pointed out in the preface to this book. Were their merits and value better known they would inevitably be much more extensively employed than they now are.

Whether the conifers have been much affected by seedling novelties or sports in this country, the author cannot undertake to say. Certain it is that there are varieties widely differing from their type in almost all the sections of the different groups now under cultivation in the island, yet it is not often we hear of new seedlings in any of the tribes. But this is a consideration scarcely affecting our practical view of the subject, which is to know what "material" we have for a certain purpose, and how to make the best use of it.

ABIES (*Spruce Fir*).

The White Spruce Fir (*Abies alba glauca*). This variety has noble foliage of a glaucous bluish-white. It is one of the loveliest of the race, with horizontal branches and light-coloured bark. It will thrive in almost any soil, but prefers a moist situation. As it grows somewhat rapidly, it soon passes beyond the dimensions of a shrub.

The Blue Spruce (*Cærulea*), a small and beautiful variety; foliage bluish-green.

The Glaucous Spruce (*Glauca*), medium-sized evergreen, conical leaves, bluish-white or sea-green.

Lord Clanbrasil's Spruce (*Clanbrasiliana*), a very dwarf dense bush, never higher than four feet. Slow grower, pretty for lawns, and excellent for rockwork.

Lord Clanbrasil's upright Spruce (*Stricta*), a more upright form of Clanbrasiliana.

Elegant Spruce (*Elegans*), compact and graceful, slow in growth.

Gregory's Spruce (*Gregorii*), densely branched, conical, bright green, slow grower,—said to be the prettiest of dwarf Spruces.

Horizontal Spruce (*Horizontalis*), remarkable for its singular appearance; only adapted for rockwork and the wildest scenery.

Inverted Spruce (*Inverta*), weeping, bright green, very graceful, grows to a high tree; only useful, therefore, when young.

Minute Spruce (*Parviformis*), very dwarf, horizontal branches, slow growth.

Low-growing Spruce (*Pumila*), compact, slow-growing bush; does not exceed four feet.

The Pigmy Spruce (*Pygmea*), cushion-like and spreading, only a foot high; dwarfest of all firs.

Pyramidal Spruce (*Pyramidalis*), conical, slow grow ing; fine for lawn specimens and rockwork.

To these may be added, of the Silver Firs (*Picea*, from *Pix*, "pitch," owing to their resinous nature):—

P. Pinsapo (the Pinsapo Fir), a very handsome, thickly-branching tree, spreading horizontally. Thrives in any situation; is especially ornamental as a lawn specimen.

P. Hudsonica (the Hudson's Bay Fir) is a very dwarf kind, from three to four feet high. Valuable for rock-work and miniature shrubberies.

And of the Pines (*Pinus*, from *Pion*, "fat," from the oily matters, such as turpentine, &c., which they furnish); which require a dry soil, but are not particular as to its depth:—

The Dwarf Corsican Pine (*Pygmea*), and the Dwarf or Mountain Pine (*Pumilio*), both with low spreading branches, are suitable for any positions where such forms are of value.

Pinus Cembra (or the Siberian Stone Pine) is very slow growing, and highly ornamental. It is well to point out that all conifers that eventually grow to a large size must only be introduced to borders of some extent, and must



FIG. 10.—ARAUCARIA IMBRICATA. (CHILI PINE.)

not be allowed to remain after they have become too large for their position.

ARAUCARIA (*Chili Pine*).

Of this peculiarly formed yet strikingly handsome member of the fir tribe, we only purpose to enlarge upon the variety *Imbricata*, sometimes called the monkey-puzzle, from the structure of its leaves upon the branches presenting an insuperable obstacle to the exercise of that animal's climbing propensities. For an idea of the general appearance of the tree reference may be made to the accompanying illustration, (10), sketched from a specimen about ten feet high, and some ten years old. Upon reaching this height, however, it is beyond a proper size for ordinary borders, however effective singly upon turf, or in belts of goodly size, as an avenue plant. It ought also to be planted where it is to remain, long before reaching such a stage. Young plants, however, are very effective in the front of shrubbery borders, or as centres of beds, even in a suburban forecourt, where indeed it appears to be tolerably at home. It may likewise be grown when young in pots for the conservatory, or elsewhere. The structure of the close stiff leaves, pointed like a surgeon's lancet, almost preclude cuttings being used for propagation, treated like those of other conifers, but handsome plants are produced from seeds. The colour of the tree at all stages is valuable, from its rich tone of green.

The Araucaria, to thrive well, requires a good soil of stiff sandy loam; it matters not how heavy the soil if it be well drained, and in planting, a raised situation is the best for them. If the soil has to be prepared for planting, care must be taken to allow plenty of room for root action, otherwise the plant becomes stunted in its growth. It is found that where the soil is heavy and wet Araucarias never do well; thus showing that their principal requirements are good soil, plenty of room for roots, and good drainage. In a great measure the same treatment holds good for pot culture of *A. excelsa*, *A. Cookii*, and *A. Bidwillii*, &c., which are well worth every attention for that purpose, as conservatory ornaments. The way to treat them is as follows: Prepare a compost consisting of three parts good sandy loam and one part leaf-mould, and a few small crocks; mix well together; as, the roots being of a fine nature, it is necessary that the soil should be free and mellow, with plenty of drainage. The plants must be potted firmly, and care taken not to overpot them; for if overpotted they are likely to get too much water, which will soon spoil their beauty. Water should be given sparingly; in fact, the drier the plants are kept (in reason) the better they thrive, especially during the winter months.

THE ARBOR VITÆ (*Thuja, or Thuia*).

Generally conical-growing shrubs, or even trees. They grow anywhere, in any soil, but prefer a low and some-

what moist situation. The name—Arbor Vitæ, "tree of life,"—is derived from a belief in the East in the curative virtue of the berries. Also *Thuia*, from "thuion," sacrifice; their resin being used instead of incense. These, with the Junipers, are indispensable to shrubberies of every size and character, forming some of the most decorative specimens that can be employed.

The American Arbor Vitæ (*Occidentalis*). Ditto, variegated.

Wareana (*Ware's*), with its dwarf variety and the miniature Arbor Vitæ, are all well known and everywhere in place.

The Chinese Arbor Vitæs (*Biota*) are generally rounder and more compact than the American varieties.

Orientalis is a very ornamental shrub, of conical form, rounded head, bright yellowish green; best at home in heavy soil.

The Golden Arbor Vitæ (*Thuia aurea*), and its improved form, *Thuia semperaurescens* (always golden), are two of the most effective and ornamental shrubs known—the former golden green, the latter of a more constant and rather yellower tone. Dwarf in habit, dense in growth, and globular in form, their place cannot be supplied by any other varieties in any class. Excellent for pot culture.

Thujopsis (broad-leaved Arbor Vitæ) *dolabrata* (hatchet-leaved), is a lovely specimen for every purpose. Flat spray-like leaves of a Lycopodium character, bright green above, and silvery below; it is one of the most beautiful of all the evergreen tribe.

The ash-coloured Arbor Vitæ (*Cinerea*), a very pretty and distinct sort; dwarf, silvery grey.

The "Compact" Arbor Vitæ (*Compacta*). An exceedingly interesting dwarf plant; close, slender branches of vivid green.

The "Glaucous" (*Glauca*). Very distinct, glaucous foliage; somewhat tender.

The Curved-branched (*Incurvata*). Peculiar foliage, vivid green; very hardy.

The Japan Arbor Vitæ (*Orientalis Japonica*). Conical form, dense, dwarf, and bushy; bright green; very symmetrical, and adapted for all specimen purposes.

Pygmea—very pretty and interesting, from its diminutive size; *Variegata*—young shoots straw colour, tufted with green, requires shade; *Tartaria*, a fine hardy kind, of conical form—are all likewise worthy of adoption, where space allows for their introduction.

The elegant Chinese Arbor Vitæ (*Biota elegantissima*). Beautiful upright shrub; bright colour.

THE CEDAR (*Cedrus*).

Deodora, a beautiful, pendulous shrub when young; one of the most exqusite for a lawn specimen. It must, however, be removed when too large for its position. Colour, whitish green.

C. Libani.

Cryptomeria (Japan Cedar) *elegans*, very pretty, fine-leaved.

THE CYPRESS (*Cupressus*).

C. Lawsoniana (Lawson's). One of the most beautiful objects amongst shrubs or trees. No superior as a lawn specimen.

C. Corneyana (Corney's). Good when young.

C. Fraserii (Fraser's). A most distinct and beautiful variety. In colour it is of a rich glaucous hue, and its habit of growth is erect and elegant. This plant is thoroughly hardy, and when it grows to a good-sized tree it becomes a most effective and striking ornament to stand upon a lawn. Blue-green foliage. Introduced at the Lea Bridge Road Nurseries.

Amongst the Cypresses are several of the best cemetery trees, such as *Funebris* and others, which may be used for such situations at any period of growth, as in such spots there is usually sufficient space to allow for their full development.

JAPAN CYPRESS (*Retinospora*).

So called from their seeds, which are coated with resin —"*Rhetine*," resin, "*Spore*," seed. These are a very elegant race of small-growing shrubs, invaluable on account of their moderate dimensions and elegant foliage, somewhat of a "Lycopod or frond-like character." This latter feature renders them particularly useful in connection with cut flowers for backs, or in any form, during the winter months, when other objects for such a purpose are

few and not easy to be obtained. They are likewise amongst the very best evergreens for pot culture, for which their refined style and moderate habit are eminently adapted; indeed there is no position in which they are not in keeping where size is not imperatively required. A similar course of propagation may be pursued to increase them as that adopted with the generality of evergreen conifers. They grow best in tolerable loam.

The following varieties are amongst the best:—

R. ericoides (heath-like), one of the finest. Densely branched and foliaged, distinct in colour, in winter peculiar violet-red; excellent to contrast with light greens.

R. filicoides, flat, frond-like shoots.

R. filifera, beautiful weeping evergreen.

R. obtusa (upright), also *Aurea*; *Pisifera*, a beautiful silvery kind, also an upright grower, and *P. aurea*, suitable for centre of beds and single specimens. Several varieties of these with golden and silvery foliage may be seen at the nurseries and in catalogues, all of which are excellent.

R. plumosa, most elegant; its name suggests its appearance. This also has its varieties like the previously named.

R. squarrosa (squarrose), distinct and good; glaucous colour, the young tips of the shoots greyish; very elegant.

JUNIPER (*Juniperus*).

Under this genus are comprised an extensive range of evergreen conifers (some are small trees), admirably adapted in any position for the embellishment of ornamental grounds. The plant is commonly known from its berries being used for flavouring gin and hollands, and the name is generally derived from a Celtic word signifying "rough," in allusion to the appearance of the common variety. Perhaps there is no group amongst the coniferous shrubs that contains so many useful and beautiful kinds as the juniper. Almost all are of value, and may be employed in so many positions that it is somewhat difficult to make a selection. Their culture is also very easy, as they will grow anywhere, and in any soil not thick and heavy, preferring, however, sandy loam. They are propagated with facility by means of seeds, or by grafting, or by cuttings of the firm young shoots placed under hand lights in sandy compost on a shaded border. If sand of good texture for striking is not easily obtainable, the *dust* of cocoa-fibre refuse, *well rotted*, will make an excellent substitute.

Taking a selection of some of the most generally useful in alphabetical order, we commence with—

J. Canadensis (Canadian). This averages from 3 to 5 feet high, forming an open spreading head, very desirable for rockwork.

J. Chinensis (Chinese, male). A beautiful minor tree

for promenades when well grown. May be kept close and short by pruning.

J. Communis (common).

J. Hibernica (Irish). A very close upright-growing variety, columnar form, glaucous silvery tone of colour, highly ornamental, and also a fine plant for the rockery. It thrives best in cool clayey soil; hot gravelly soil is unsuitable.

J. Compressa, is a dwarfer and more compact form of the above, pyramidal, and excellent where small shrubs are required.

J. Drupacea (plum-fruited). Belongs to the berry-bearing section. Peculiar, and very ornamental in its foliage.

J. Echiniformis (hedgehog-shaped). Very dwarf, curious; suitable for rockwork.

J. Japonica (Japan) or *Procumbens*. Dense, close, upright, pyramidal; bright green.

J. Nana (dwarf), low, spreading, only about a foot high; useful as a carpeting plant.

J. Excelsa stricta, of smaller growth than *Chinensis*, is of elegant form, somewhat greyish in tone of colour. It is a very excellent variety for planting by the side of narrow walks, or in geometric gardens, or along terraces. Other highly valuable kinds might be added to the above-named, some of which may be useful under special circumstances, but it is as well to refer to professional advice.



FIG. 11.—BRANCH OF IRISH YEW.

THE YEW (*Taxus*).

Yews flourish in any soil tolerably moist, but thrive best in loams, clays, rocks, on and in shady places. This tree is well known from its connection with the celebrated weapon of the English archers (*toxon*, a bow). The term yew is supposed to be derived from the Celtic —"*uo*," verdure, *i.e.*, evergreen. Many of the varieties are amongst the most valuable of garden shrubs, and, being very hardy, they deserve extensive use. The following are, perhaps, the best for ordinary garden purposes:—

The Creeping Yew (*T. adpressa*), low spreading, with small, shiny, dark-green leaves; very ornamental for the front of wide borders, or rock work.

The Canadian Yew (*T. Canadensis*), low spreading bush; useful for sides of water.

The Common Yew (*Baccata*), very dense, and bushy; grows to considerable size. Leaves of a dark sombre green. Excellent for hedges, or clipping; also for cemeteries, &c.

The Erect Yew (*Erecta*); an erect form of the above.

The Heath-like Yew (*Ericoides*); small foliage; erect; growth peculiar. For rock work and the like.

The Irish Yew (*Baccata fastigiata*)—(see illustration, 11). One of the most distinct dark-leaved (blackish green) shrubs in cultivation; excellent for contrast with lighter foliage. Almost spindle-like in shape; admir-

ably in place for sides of walks and terraces, lawns, cemeteries, &c.

There are many other excellent varieties which may be adopted for special objects under professional advice.

SECTION III.—DECIDUOUS.

THE deciduous shrubs suited for limited gardens are few in number, considered irrespectively of their flowering or berry-bearing properties. Indeed, with these exceptions, they might almost be dispensed with. However, as there are a few which, from some conspicuous features in foliage or growth, it would not be proper to omit entirely from notice, we shall confine our remarks to the following brief list—the more so, as that of "Deciduous flowering shrubs" will require to be enumerated in greater detail.

Acer (maple) *negundo variegata.* White and pale green; standard, or kept as low bush.

Beech (*Fagus*). Purple leaved; treated as a shrub.

Buckthorn (*Rhamnus latifolius*). Broad, handsome leaves.

Catalpa aurea. Treated as a shrub.

Dogwood (*Cornus alba*), (white), and *fol. var.* (variegated).

Elder (*Sambucus aurea nova*). Golden, fine.

Hazel (*Corylus avellana purpurea*) (purple leaved); effective for its foliage.

Golden Japan Privet (*Ligustrum*). Jap. var., also.

Golden Chinese Privet (*Ligustrum lucidum* var.).

Leycesteria formosa. Pretty drooping shrub.

Oak (*Quercus coccinea*). Scarlet; kept as a bush.

Sumach (*Rhus*). *Cotinus toxicodendron* and *typhina.* Stags' horn.

Spiræa lutea (golden Spirea).

Shepherdia argentea. Leaves like frosted silver; a beautiful shrub.

SECTION IV.—AMERICAN PLANTS.

ANDROMEDA FLORIBUNDA.

Beautiful evergreen, compact bushes, of a cushion-like shape, and grey green foliage. Usually grown in peaty soil, but will thrive very well in the same as that for the Rhododendron. Best propagated by layers. Flowers white, in April and May.

AZALEAS.

The hardy garden azaleas (*Ghent*, *Pontica*, *&c.*) must be distinguished from the greenhouse or Indica varieties. A little peat earth, mixed with silky loam, suits their culture well. Some flower before the leaves appear, and most of them are very fragrant. Flowers pale or deep yellow and reddish orange. They may be grown in beds, or masses, in the less conspicuous portions of the garden. Raised from seeds, layers, and cuttings. Most flower about May.

EMPETRUM NIGRUM.

A dwarf compact shrub.

HARDY HEATHS (*Erica*).

The advice of the nurseryman had better be taken as to these, as there are several varieties—*Australis*, purple red; *Allportii*, dark red; *Herbacea*, pale red, blooms in winter; *Mediterranea*, pyramidal shrub, red. *Scoparia vulgaris*, varieties, flowers red or white. Late May or June.

KALMIA.

Beautiful evergreen shrubs, usually associated with Rhododendrons as to soil, culture, and propagation.

Latifolia is one of the most beautiful amongst flowering shrubs. Blossoms white, tinted and dotted with pink, in June.

Angustifolia, dark red; and *Glauca*, pale red, flowering about the same time, may be added if wished.

LEDUM (*Labrador Tea*).

Very pretty American evergreen low shrubs, with white flowers; about April, soil sandy peat; increased chiefly by layers. They are suited for bordering groups of peat plants—*Thymifolia*, *Palustre*, *Canadense*, *Latifolium*, are the choicest.



FIG. 12.—STANDARD RHODODENDRON.

PERNETTYA.

A pretty dwarf, berry-bearing, and flowering race of evergreens, requiring peaty soil. The spray is useful to mix with decorations.

Angustifolia, flowers white, berries red.

Mucronata, flowers white, berries red.

Speciosa, similar to the preceding, but flowers and berries more abundant.

RHODODENDRON (*Rose Bay*).

Amongst flowering shrubs, this particular family can scarcely be said to have any superior, whether on account of its glorious masses of bloom of various colours, its habit of flowering when of very small size, its handsome foliage, ranging through different shades of green, for the most part of great depth in tone, and its hardy nature, holding out bravely against the severest winters. These excellent qualities, therefore, suggest its liberal use in the furnishing of the borders wherever circumstances permit its introduction. The forms in which the Rhododendron may be grown are compact, round-headed bushes, or standards, to which mode of training it lends itself more readily than any other plant, except, perhaps, the Portugal laurel, and is more effective in the flowering season than even the rose. (For example *see* illustration 12.) For town districts, even in the areas, balconies, and other outdoor positions, they are amongst the best of evergreens. The author has

seen specimens in such positions at West-End residences, marvels of bright and brilliant health, especially after a little rain. It is generally supposed that Rhododendrons of necessity require a peat soil, a notion which militates greatly against their use in small shrubberies. This, however, is not the case. They will thrive and flourish well in good silky loam. Messrs. Lane and Son of Berkhampstead, so well known for their splendid collection of these plants, grow them all in loam only, as will be seen from the following extract from their catalogue :—

"These most beautiful flowers are well worthy of more extensive cultivation, blooming freely, and varying in colour from white to scarlet and crimson. They are suitable for planting on lawns, either as single specimens, or in clumps or borders, &c., and succeed in almost every situation. The best soil is peat or loam; if the former, it is quite sufficient to cut it up and plant in it, as the more fibrous it is the better, and they grow admirably.

"The cheapest of all are the varieties of *R. ponticum*, and as they can be grown in any light sandy soil, they should be planted extensively where peat is scarce and expensive.

"The varieties of *R. catawbiense* are also very hardy, and have larger and finer flowers than the varieties of Ponticum.

"However, it is scarcely worth while to give room in well laid-out shrubberies to these comparatively inferior kinds, while there are so many magnificent named varie-

ties, with superb flowers, possessing in addition the best properties of the inferior. Indeed it is scarcely possible to give a selection of these, and they had better be adopted in accordance with the recommendation of the skilled nurserymen who make a feature of their culture. Nevertheless, to assist in the choice of colours, we have extracted a list out of which to choose. There are two little gems of this race which appear to be little known, at least to general cultivators. They are *Rhododendron pumila* and *Wilsonii.* Their leaves are narrower than most other kinds, and their neat, compact growth makes them invaluable for front rows of beds or borders, or as edgings for masses of the more bulky kinds.

" Of the more expensive hybrids the following selection cannot be surpassed, as it includes only the best and most distinct of the older sorts, and consequently least expensive, viz. :—

" *Aclandianum*, blush;
Alarm, white-edged with crimson;
Archimedes, rosy crimson;
Atrosanguinem, blood-red;
Barclayanum, deep rosy crimson;
Blandyanum, rosy crimson;
Brayanum, rosy scarlet;
Brutus, rose;
Bylsianum, white, pink margin;
Caractacus, purplish crimson;
Charles Dickens, dark scarlet;
Concessum, pink, light centre;

Maculatum grandiflorum, rosy lilac;
Delicatissimum, blush;
Francis Dickson, scarlet;
Giganteum, bright rose;
H. H. Hunnewell, dark crimson;
H. W. Sargent, crimson;
John Spencer, rose, pink margin;
John Waterer, dark crimson;
Lady Armstrong, pale rose;
Lady Eleanor Cathcart, pale rose, spotted with chocolate;
Lady Francis Crossley, rosy pink;
Lady Godiva, white, blotched with yellow;
Lord John Russell, rose;
Lucidum, purplish lilac;
Maculatum superbum, rosy lilac;
Magnum bonum, rosy lilac;
Milni, rosy crimson;
Minnie, blush-white;
Mont Blanc, white;
Mrs. G. H. W. Heneage, rosy purple;
Mrs. John Clutton, white;
Mrs. Milner, rich crimson;
Mrs. R. S. Holford, salmon;
Mrs. Thomas Wain, pale rose;
Mrs. William Bovill, rosy scarlet;
Ne Plus Ultra, purple, light centre;
Nero, rosy purple;
Onslowianum, delicate blush;

Perspicuum, blush;
Prince Albert, rich lake;
Purity, white;
Reedianum, cherry red;
R. S. Field, scarlet;
Rubens, clear rose;
Sherwoodianum, rosy lilac;
Sir Charles Napier, rose;
Sir Thomas Sebright, rich purple;
Sir William Armstrong, crimson;
Stella, pale rose;
The Queen, blush, changing to white;
The Warrior, rosy scarlet;
Titian, clear rosy scarlet;
Vandyck, rosy crimson;
William Downing, dark puce."

Before fixing upon any definite varieties, it would be wise to see a first-rate collection in flower, and consult with an expert in their cultivation, as the whole of the list will scarcely be adopted except in very rare cases.

SECTION V.—FLOWERING SHRUBS AND TREES KEPT DWARF.

Althea frutex (Hibiscus). The double varieties are especially beautiful, and succeed near town in a sunny situation. Mixed. July and August.

Amelanchier botryapium (Snowy Mespilus). A light, elegant, small tree; flowers white during spring. Must

be removed from small borders upon reaching a moderate size.

Broom, yellow and white. (*Cytisus* and *Spartium*.)

Cistus. (Rock-rose.)

C. Alyariensis. Yellow, chocolate base. June.

C. Corbariensis. White. May. 1½ feet.

C. Ladaniferus. White, crimson spots. June.

Coronilla. The shrubby varieties of this family are best known from being cultivated as pot plants for early forcing, but still, certain of them may be used as spring flowering border plants, for the most part of a bright yellow colour; *emerus*, a pretty dwarf shrub, will be sufficient for insertion here.

Corchorus, or Kerria Japonica, useful to fill up corners and plant against fences or walls. The double-flowered is the best. Yellow, in May.

Cratægus (Hawthorn). This, perhaps one of the best known (under the cognomen of "May") and most beautiful objects of the shrubbery or garden, is really a small tree. Though most admired in popular estimation for its deliciously-scented flowers, it is equally worthy of note as a berry-bearer, some varieties being both prolific and enduring in that respect. They grow freely in fine soil of a loamy character, and are propagated chiefly by seeds sown broadcast in beds, or by grafting the choicer sorts upon stocks of the common species. Although they may be trained as ornamental bushes, the more common form is that of standards, produced by training up a leading shoot to four or six

feet high and then allowing the development of the head. Its value for hedges is universally known. The varieties are numerous; some of the best here follow:—

C. crus-galli (Cockspur thorn). White; keeps its berries during winter.

C. oxycantha. Double white.

C. coccinea flore pleno (Paul's). Double scarlet.

C. flore pleno. Double pink.

C. aronia. Yellow berries.

C. punicea. Crimson flowers.

C. nigra. Black berries.

C. oxycantha multiplex. Double white.

Coccinea. Makes a dwarf bush. All deciduous.

All of these flower in May, earlier or later, according to the character of the season.

Daphne.

D. Mezereum (the Mezereon). Flowers pink. February.

D. Mezereum flore albo. Flowers white. February.

Deutzia (*crenata*). White. May.

Deutzia (*scabra*). White. May.

Fuchsia. This, properly, is treated as a florists' flower, so far as the show or named varieties are concerned.

Fuchsia Ricartonii. Hardy and showy for outdoors.

Fuchsia virgata. Pretty slender shrub.

Genista purgans. Flowers yellow. About May.

Genista tinctoria flore pleno. Flowers yellow. A low trailing shrub.

Guelder rose (*Viburnum opulus sterilis*). White, globular flowers.

Garden Hydrangea (*Hydrangea hortensis*). Pink. July.

St. John's wort (*Hypericum nepalense*). Yellow. June and July. There are several varieties, of which *Kalmianum* is perhaps the best.

Japan Quince (*Cydonia Japonica*, or *Pyrus Japonica*). May be grown either as a wall-plant or shrub. Scarlet. In spring.

Laburnum (*Cytisus*). Yellow. Spring.

Lilac (*Syringa vulgaris*). Common, pink and white; Persian, pink and white. Spring. There are other varieties which may be used under competent advice.

Philadelphus (*Syringa*). Mock orange. Varieties all flower white. May or June.

Ribes (flowering currant). A very pretty well-known shrub, the flowers resembling in form a bunch of currants. Grows freely in good garden soil; propagates easily by cuttings or layers.

R. sanguineum. Red. May.

R. aureum. Yellow. March.

R. atrosanguineum. Dark red. May.

R. albidum. White. May.

R. flore pleno. Double crimson. May.

Roses. A speciality (see works upon).

Furze (*Ulex*).

U. Europea flore pleno. Double-flowered, yellow. May. For the foreground of borders.

U. nana. Dwarf; rockeries. Yellow. August.

Weigelia. One of the prettiest of flowering shrubs; beautiful in the form of a bush or trained against a wall. Thrives in good garden soil; increased by cuttings or layers treated in the usual manner.

W. amabilis. Lovely pink.

W. rosea. Rosy. This and the previous named are good for town districts.

W. alba. White. Requires better air than the first-named two. There is a variety with variegated leaves.

In addition to these there are varieties of the Almonds (*Amygdalus*); the flowering Cherries (*Cerasus*); the Peach (*Persica*), double-blossomed; the Pear (*Pyrus*), and the double-blossomed Plum (*Prunus*). To enumerate the whole of these would occupy too much space, particularly as they are not suited for extensive adoption in shrubberies of limited size.

All the above-named species and varieties are propagated by methods already described, and require only good garden soil.

SECTION VI.—WALL PLANTS AND CLIMBERS BELONGING TO THE SHRUB TRIBES.

In enumerating this valuable family of garden embellishments, the Ivies are not included, as they have already undergone special notice. The importance of this ornamental class will be more readily appreciated when it is perceived that there is nothing very inviting or picturesque in the aspect of bricks and mortar,

except it may be in the form of ruins, and even then such require the adornment of appropriate vegetation, to satisfy æsthetic tastes. Neither do palings appeal much more forcibly to the sympathies of the lovers of artistic effects. One advantage in particular attends the employment of this charming section, which is the addition they afford to our supply of flowers of high character and delicious fragrance, as well as the desirable quality of covering space.

We shall now proceed to describe some of the most useful and easily-cultivated varieties for this purpose, with a preliminary caution at the first set off against a common error in their treatment. Never attempt to get them up too hastily—the result of which procedure is certain failure in the end. For the first two seasons, at least, all climbing plants ought to be kept pruned back, until their roots have obtained firm possession of the soil in which they grow. Afterwards they may be allowed to fill the spaces they are intended to cover, merely regulating their growth as occasion requires. The borders, too, in which they are planted ought to be made deep, and of lasting staple, as they do not admit of perennial "lifting" like many other plants, the only way of renewing worn-out soil being by surface dressing. Amongst this section are to be found not only many kinds which yield beautiful flowers in due season, but likewise many of the berry-bearers—which bestow brightness and life at a season when the garden is otherwise deficient in colour.

VIRGINIAN CREEPER (*Ampelopsis*).

Deciduous, well known for its beautiful red or scarlet tints when dying off in the autumn. There are two kinds of this. *Hederacea* (ivy-like), and *Veitchii*, a smaller variety. This is an admirable plant for covering town frontages, as may be seen in a host of instances in the neighbourhood of the London squares. It may be grown in a large tub, or a paving-stone in the area may be removed, and a good supply of earth given to it, when it will grow rapidly, and may be trained round the windows on some support. In a very few years it will entirely cover the front of a house, or walls of any kind.

ARISTOLOCHIA SIPHO.

A noble, large, round-leaved plant, hardy, and a free grower.

BIGNONIA CAPREOLATA.

A splendid wall-climber, flowers reddish-yellow. This may be used in tolerably fair atmospheres.

CEANOTHUS.

Azureus grandiflorus, flowers beautiful blue. There are several varieties of this race.

VIRGIN'S BOWER (*Clematis*).

In no subject of its class has greater improvement—amounting almost to a transformation—taken place than in this well-known genus of climbing shrubs. From

small insignificant flowers of a limited range of colours, they have become developed into large dimensions, some six inches across, and embracing a wide scale of distinct well-defined tones, from dark blue to white, through mauve, claret, maroon, crimson, red, rose, and even striped. In selecting these it will be well to consult the advice of an experienced nurseryman. A few are named, however. *Jackmanii* and its varieties; *John Gould*, Veitch, one of the double kind, 4 inches in diameter. Light blue, &c., &c.

JAPAN ALLSPICE (*Chimonanthus Fragrans*)

Is an old established favourite, known sometimes under the name of the Winter Flower. A delightfully fragrant, hardy, garden shrub, blooming on the leafless branches in the depth of winter, and consequently of the highest value in the garden or borders. Its proper position is trained against a wall; and to preserve the blossoms, which begin to appear in December, and are yellow and brown, it is desirable to screen them from frost, should it appear at that season.

It grows to a height of about six feet, requires a tolerably good soil, and is chiefly propagated by means of layers. Even in the neighbourhood of the metropolis and for "kind climates" and mild winters it is extremely valuable, and ought to be introduced, on account of its flowers, much more extensively amongst

gardens than is now the case. The flowers appear before the leaves, which are of a smooth lustrous bright green.

The old name for this plant was *Calycanthus præcox.* It is stated that a sprig in flower of this shrub is laid by every person's plate, probably on account of its odour, at grand banquets in China and Japan—a practice worthy of imitation in this country with many fragrant or beautiful objects of the plant tribe on similar occasions, a feature in "table decoration" which would be novel as well as pleasant. The common varieties are remarkable for their sweet scent.

COTONEASTER MICROPHYLLA AND SIMMONSII

Are suited for low walls, their pretty leaves and shining red berries forming charming objects when in full glow.

CRATÆGUS PYRCANTHA.

A brilliant berry-bearing plant usually trained against walls, and scarcely out of place in any situation where it will thrive.

EUONYMUS JAPONICA VARIEGATA, AND RADICANS VARIEGATUS,

Are charming plants for edgings to shrubbery borders, or for a position at the foot of low walls. They are hardy and easy of cultivation in the same kind of soil as the rest of the species. They are also excellent plants for rockwork.

GARRYA ELLIPTICA.

One of the most remarkable of wall evergreens. For a fuller description see p. 77.

THE HONEYSUCKLE (*Lonicera*).

The delicious fragrance of this well-known hardy climbing plant, one of the oldest favourites of its class, its hardy constitution and its easy culture, entitle it to a high position amongst the useful section to which it belongs. From its obedience to the trainer's art it may be made to assume many forms which do not at first appear properly to belong to its habits. Stopped back skilfully, it will form a well-furnished specimen bush for the lawn, and, with sufficient support, the side-shoots being suppressed, it will form a drooping standard several feet high, or, under different management, produce a noble column, embellished for a long period with its odorous flowers. The honeysuckle grows well in almost any soil whereof fair loam constitutes a part. It is propagated both by layers and cuttings, treated in the usual way; and it may be raised from seed—that is from the berries, without any special care. The evergreen trumpet honeysuckle (*Lonicera sempervirens*), though possessing beautiful flowers, is destitute of fragrance. The following selection will be sufficient for the purposes of most amateurs :—

Aureo-reticulata (golden-reticulated), closely-veined golden leaves, a charming variety, though smaller in leaf

and less robust in character than the other varieties, an exquisite thing for pot culture, dinner-tables, sprays to mix with cut flowers to add finish and beauty to vases, epergnes, and such-like ornaments; for this purpose it is only to be equalled by some of the more delicate ivies.

Grata (pleasant), hardy sub-evergreen climber, 20 ft.; yellow and red, from June to September.

Dutch honeysuckle and its varieties; yellow and red, in May and in July.

Brachypoda, a rapid grower.

Brownii, bright scarlet, in May, 10 ft., evergreen, a variety of *L. sempervirens*, also good; and its offshoots, "majus and minus," with flowers longer and less than the ordinary size, are all excellent. The yellow trumpet honeysuckle (*flava nova*) is a fine and showy object in flower.

The Alpine honeysuckle is a hardy shrub, 6 ft., flowers in May. *L. Iberica* (Georgian), 4 ft., may also be employed. The woodbine of the poets is *Lonicera Periclymenum*, a name almost as long as its habit, 20 ft. and more; flowers yellow, in June.

THE JASMINE (*Jasminum*).

This family comprises many old and well-known favourites, specially adapted for walls and trellises, to cover arbours, and to run up palings and along the supports of balconies, summer-houses, and similar positions. Some

of the varieties are evergreen. The flowers of most are small, very fragrant, and for the most part yellow. The naked flowering kind (*nudiflorum*) puts forth its lively canary-coloured blossoms in winter when the leaves are fallen, at a period in which it has no superior. Being, however, of a free twiggy growing habit, it requires to be kept well thinned when trained out. This kind may also be trained as a weeping bush, and from its habit might probably, with a little care, be made to assume the form of a weeping standard, in which case it would be especially attractive when in bloom. A plant of it, trained side by side with another of the scarlet-berried class, is remarkably effective, when in flower, upon a wall. The propagation and soil for the garden jasmines are much the same as for the honeysuckle, &c. Some of the varieties are properly house or greenhouse plants; but, however beautiful, such do not come within the plan of this work and therefore require no further remark. The following will suffice for ordinary use:—

Jasminum fruticans (fruiting), hardy sub-climbing shrub, 4ft., flowers yellow, in June. *J. officinale* (common), 12 ft., flowers white, in July. *J. revolutum* (revolute,) 10 ft., flowers yellow, in May. *J. nudiflorum* (naked flowering), yellow in early spring, one of the prettiest objects of its season. The sprays are particularly lively amongst other flowers, from their clear canary-colour. This may be grown as a border-flowering shrub by keeping the leading shoots stopped back. It is justly classed as an evergreen. The author once had

several pot plants of this, in the form of pendulous bushes, nearly three feet high and very dense through. As the shoots drooped regularly on all sides, they were particularly beautiful when in flower.

MAGNOLIA (*Grandiflora conspicua*), FLOWERS WHITE).

There are several other varieties which are very beautiful. All the magnolias, however, require spacious frontage, and the conditions attending good aspects and favourable localities.

PASSION-FLOWER (*Passiflora cærulea*).

There are other desirable varieties, all requiring space, for their effective development. Unfortunately, they are not entirely hardy in severe winters.

ROSES.

Of the scandent varieties, of which there are so many now of high quality that it is scarcely necessary to fall back upon the older kinds except for the wild garden or cognate situations. For a detailed account of these and their culture, the reader is referred to the Author's "Roses and their Culture" (Messrs. G. Routledge and Sons), or "Rose-growing for Amateurs," in which the subject is exhaustively treated.

VITIS HETEROPHYLLA.

Leaves beautifully marbled, and the "wild vine," with

Riparia, the sweet-scented vine, and a few others, are valuable additions to the climbing tribe, especially where variety is required, and space will allow of its development.

Wistaria Sinensis.

One of the noblest of wall plants for covering extensive spaces. The flowers, either purplish-lilac or white, hang in racemes, like bunches of grapes, before the leaves are produced. It is very hardy and free-growing, when well established, though slow-growing at first. It may be trained into a most elegant standard, though not often seen in that form; and, in the Author's opinion, by stopping it might be made into a handsome flowering bush; at least the experiment is worth trying where opportunities for carrying it out exist. Propagated best by layers in the usual way.

With respect to these lists, the Author would recommend amateurs to aim at having a few good and choice subjects, rather than to multiply the number of varieties. He would also advise that wherever wall plants are to be grown, that some method of training should beforehand be provided, such as nails with eyes, to which the branches may be tied with tarred string; or tenter hooks driven into the palings or brickwork, to which they may be attached with vulcanized India-rubber bands; or a wire trellis

fixed against the wall. Any of these modes are to be preferred to that of "nailing in" with shreds of cloth, a process which occasions many a cracked knuckle and sore fingers for many days.

The best mode of propagating any of the climbers here mentioned is by cuttings treated in the ordinary way. They may also be multiplied by layers where the branches are of sufficient substance.

SECTION VII.—BERRY-BEARING SHRUBS.

From the season at which these beautiful and attractive sections of the plant tribes attain their full splendour amidst bare branches and flowerless borders, bidding defiance to wintry frosts and snows, it may be doubted whether any garden is complete without a liberal supply of them. Moreover, it is another feature in their use that they supply a variety of colour, which at that period it is scarcely possible otherwise to obtain, furnishing as they do among them masses of brilliant scarlet, orange, yellow, and even black. It would be difficult, even in the height of summer, to select a more pleasing or picturesque spectacle than a fine holly with its varnished rich green leaves, aglow with brilliant berries, or the symmetrical elegance of a well-grown and well-trained specimen of *Pyracantha* in full bearing against a neat wall. Moreover, many of the tribes are not dependent for their attractions upon their berries alone, being, in addition, remarkable for their flowers or foliage, under the listsof which given in this work many now alluded to will be found.

Amongst them all the Holly justly claims the first rank, and of the varieties of this the following are amongst, if not absolutely, the best and most prolific of berries. The common holly and its varieties, *hybrida*, *ovata*, *Hendersonii*, *Scurtica* (excellent for smoky districts) and *Fisheri*. In the variegated section *recurva variegata*, *flammea*, *angustifolia flava*, *aurea myrtifolia*, *aurea pumila*, and *bicolor*, are specialities in fruiting freely; and the silvery kinds, *alba picta*, *ferox argentea*, *lucida*, most valuable. All of these, it is to be noted likewise, make admirable specimens for pot cultivation. It is to be observed that in smoky districts yellow-berries show the dismal effects of coatings of soot and blacks, less than the scarlet, but in any case doses of water, tepid at least, should be occasionally administered early on mild open days, so that the moisture may dry up thoroughly before the risk of night frosts is incurred.

Other important berry-bearers follow here—their other features have been, in most cases, already described, so that their names will be quite sufficient. *Aucubas* are not particularly free or reliable. *Cotoneasters*, of course, are amongst the best. They grow well in good loam, and require free exposure to the "sunshine and to all the winds of heaven." Stagnant moisture at the roots, shade and damp overhead, are equally mischievous. Propagation by layers and seeds. Their general character is procumbent with neat box-like foliage. Some few are deciduous, but

C. buxifolia, rotundfolia, Hookerii, Simmonsii, a beautiful evergreen having fine brilliant red berries, *microphylla* (small-leaved) a very profuse bearer, and *thymifolia* (thyme-flowered), are all worthy of extensive cultivation. They are particularly well suited for the foreground of borders, rockeries, and indeed any position where they are not concealed by more bulky objects.

Skimmia japonica, a dwarf plant, bearing scarlet berries, and *Skimmia lobata,* a handsome dwarf evergreen, profuse in producing scarlet berries, are amongst the best. They are admirable for front positions, edgings, and so on. Their growth is slow, and consequently they are excellent for pots, in which form they ought to be more frequently seen. Good loamy soil suits them, and they are propagated by layers and seeds.

Othera japonica, said to be a newish Japanese plant, has been described as a scarlet berry-bearer, free growing, with fine leaves, resembling in style those of *Ligustrum lucidum.* With such credentials it certainly ought to receive a thorough trial, but we do not speak of it from personal knowledge.

The Thorns as berry-bearers scarcely require remark, their fruit is so well known. The Berberies also are noted for their handsome purple berries, many of which also are by no means bad for edible purposes, and the pretty little *Pernettyas,* with white flowers and red berries, ought to find a place wherever choice collections of this charming section of berry-bearing shrubs are made a feature of the garden. The list of these might be

further extended but a sufficient number of choice examples have been named. The Ivy, however, must not be forgotten; for though its berries are not particularly conspicuous, they are interesting, especially to bees and certain insects, for their sweet smell and honey-like exudations. *Chrysocarpa* has yellow leaves, and some others black, but the usual colour is a by no means brilliant tone of greenish yellow of the dark cast.

SECTION VIII.—SHRUBS FOR HEDGES AND SCREENS.

Good hedges are often such important elements in a garden that it will be useful to devote a little space to their consideration, particularly as they discharge three-fold functions. The first is that of an ornamental division or boundary, agreeable to the sight, but at the same time impervious to the visitations of obnoxious intruders. Another is that of a protection or screen from the severity of cold cutting winds, so prevalent in our winter and spring, and the effects of which are more often fatal to vegetation than the severest frosts. It is astonishing how much a climate may be modified by a judicious use of such shelters, as may be seen in the adoption of bays, so to speak, enclosed on all sides except on the south, employed at the large nurseries for the protection of many plants which otherwise would have to be committed to frames or pits. The third is that, if in keeping with the general style of the surroundings, they

may be made highly conducive to the finish of a garden. What could be more bright and refreshing to the sight, for instance, than a close evergreen hedge of the common Holly, or some of the Arbor Vitæs, or the Red Cedar (*Juniperus Virginiana*), or many other hardy close-growing evergreen, which, in fact, all good hedges ought to be. We may at once say that the well-known Hawthorn, however in place in the farmer's field, is utterly out of place in gardens with any pretension to refinement. It is ragged and coarse, takes up a good deal of room, and requires trimming twice a year to keep it compact and neat. The roots also are apt to trench upon the nutriment in the soil, to the damage of such plants as grow in the borders at its foot. Besides, something more ornamental is required as an adjunct to finished grounds. Nor have we far to seek for an abundance of *matériel* to meet the most exacting desires. First in order, as we have named, is the Holly; then we have the Tree-box; then comes the Ivy, a screen of which forms one of the illustrations to the chapter on that plant. Amongst conifers, the Arbor Vitæs likewise are suitable for the purpose, and the Common and the Irish Yew are admirable, hardy, and enduring. *Thuja Lobbia*, *Cupressus Lawsoniana*—at least we have seen it stated to be so, and give it with that qualification—the *Euonymus*, the evergreen Privet, as well as the common varieties, are excellent hedge plants. Where there is plenty of room the common Laurel does very well, but the aspect must not be too bleak. This and the Privet are quick growers,

while the first-named are rather slow. The Laurel should be pruned with the knife, and not clipped with the shears. For certain positions nothing can surpass the old English favourite, the Sweet-brier, which adds fragrance to its other excellent properties. It should be planted thickly at first, in tolerably good soil, and have its early growth supported till it reaches a few years old, as it is apt to straggle till established in a thick bushy form. Care must be taken to keep it well furnished at the base, by cutting it back at the top when it gets bare at the foot.

For damp and marshy ground the Willow and Elder may be employed. They are more useful than ornamental, but may be used in such spots as are not fit for other subjects. Hornbeam makes a good coarse, hardy hedge, grows in almost any decent soil, and may be clipped into shape with the shears. Wherever hedges are to be planted, it will greatly assist their future welfare if the ground be previously well trenched.

We must not, however, lose sight of the common Furze (*Ulex*) and its various forms as a valuable hedge-plant. Not only does it grow densely as well as freely, presenting a formidable obstacle to trespassers, but from its evergreen habit and free and brilliant flowers, it is a highly ornamental object to the boundaries or dividing fences of high-class gardens or pleasure grounds, particularly in connection with wilderness scenery. The double-flowered variety is the handsomest, and deserves a place in the fore-part of any ornamental borders.

CHAPTER VIII.

SELECT LISTS FOR VARIOUS PURPOSES.

I.—SHRUBS FOR TOWNS AND SMOKY DISTRICTS.

SUCH neighbourhoods as the above may be placed at the head of those difficulties with which the lovers of horticulture have to contend in the exercise of their favourite pursuit. When smoke, however, is conjoined to the exhalations which proceed from chemical factories a garden of any kind becomes a despair, and it may be recognized at once as "sour," like the unattainable grapes to the fox in the fable. We shall, therefore, make no attempt to grapple with such adverse conditions. Mere smoke, however, may be encountered by skill and knowledge in various ways, especially by the judicious use of certain of the members of the various families and tribes described in this treatise. In the cultivation of all subjects where smoke prevails two points are of essential importance. One is, to avoid every plant that has a woolly or resinous surface. The other is to refresh beds or borders constantly with a supply of *virgin* soil, especially

for shrubs—with most, if not all, of which, indeed, manure does not agree. By attending to these two essentials, aided by frequent ablutions from the garden engine or waterpot, the number of plants that may be brought into thrifty existence, even in "smoke-land," would astonish the inexperienced. Town gardens usually abound in exhausted or vitiated earth which would be capable of producing little good even in rural atmospheres. There are no feeding elements in such staples, nor will their quality be much improved by any quantity of manure. Shrubs, in particular, rejoice in clean, healthy soil, a consideration worth treasuring up. Good loam suits the constitution of most, as is amply evidenced by their vigorous growth, and the healthy green of their foliage when they have such food to revel in.

The following hardy evergreens, with stout varnished like leaves, will succeed in the localities above mentioned:—Aucubas, Arbor Vitæ, Araucaria, Berberis, Box, Euonymus, Laurels, Hollies, Ivies, Privets, Rhododendrons, Lilacs, Laburnums, Thorns. For walls and climbers:—Jasmine, Pyracantha, Pyrus Japonica, Honeysuckles, Clematis, Virginia Creeper, and Aristolochia Sipho will all grow well under moderately good treatment. Skimmias and Cotoneasters may be added specially as berry-bearers. Indeed, almost all the varieties named in the lists, subject to the respective cautions given, may be tried with a probability of satisfactory results. The "Berberis" family will also succeed well in the suburbs, and the double-flowering furze might

also be experimented upon, its flowers being so lively in effect.

II.—SHRUBS UNDER TREES AND FOR SHADY BORDERS.

Such positions are amongst the most difficult for the inexperienced to deal with, and even for adepts to treat satisfactorily. There are so many natural obstacles to surmount, and so many accidental circumstances to be taken into account, that a knowledge of what may be depended upon to grow in such spots is of the greatest importance. It must be confessed that such situations are too often a reproach to otherwise well-kept gardens, and yet they often are amongst the inevitable disagreeables that have to be encountered. At first sight it might appear to many that ivy is almost the only plant of such a grade as not to be out of keeping with superior surroundings. And this is strictly true; yet there are not a few really beautiful and attractive shrubs which may be employed with equal propriety and advantage, and which are more likely to be in general harmony with other features amidst which they may be placed. Turf, of course, is inadmissible, which is painfully evident by the miserable spectacle it affords whenever seen in such positions. There are many shrubs which naturally love the shade, and the chief if not the only difficulty that such will have to contend with is that of the more powerful root action of their stronger rivals for the appropriation of the nutritious particles of

the soil. This may be counteracted by fresh supplies to the surface from time to time, as required. With this attention any of the following subjects may be adopted with every prospect of success:—

Taxus canadensis, beautiful upright yew.

T. adpressa, flat and spreading dwarf yew.

Common holly } trained as low bushes.
Variegated holly }

American Arbor vitæ, to be removed when too tall.

Laurels, dwarf.

Ligustrum japonicum, a privet, lovely foliage.

Ligustrum lucidum sempervirens, evergreen foliage, almost as fine as that of a camellia.

Laurustinus.

Hypericum (St. John's wort), wall, under-trees.

Skimmia japonica, dwarf, berries.

Rhododendrons, peat, but will do in fine loam.

Berberis japonica.

B. fascicularis hybrida.

B. Bealii aquifolium.

Box, *varieties*, loam.

Common Yew.

Euonymus, of sorts.

Hypericum calycinum.

Rhammus alaternus.

The following are especially adapted to grow under the drip of trees:

Berberis—

Aquifolium;

Asiatica;

Japonica.

Box, evergreen (*Sempervirens*). The tree forms.

Privet, Japan; *Lucidum sempervirens*, and the common kinds.

Rubus (bramble) *discolor*, and others.

Yew (*Taxus Canadensis*), *baccata*, fol. var., *i.e.*, variegated. Dull; the varieties of the common yew.

Hypericum (St. John's wort) *elatior*, *calycinum*, *kalmianum*. Flowers.

Cornus (Dogwood) *sanguinea*, *mascula*, *variegata*, *sempervirens*. Flowers.

Juniper, common.

Hollies, ivies, and periwinkle.

For descriptions refer to the Articles under which they are treated.

III.—SHRUBS FOR ROCKERIES AND KINDRED POSITIONS.

The undermentioned trees and shrubs are the most useful for planting in rock and alpine gardens, for they are all of dwarf growth, and the varieties quite distinct from the normal forms of the several species:—

Abies Clanbrasiliana, a low compact-growing bush; height 3 feet.

A. excelsa stricta, a very dwarf, erect-growing variety.

A. excelsa elegans, a compact variety with greyish foliage; height 5 feet.

A. alba nana, a miniature variety of the white spruce; height 3 feet.

A. excelsa pygmæa, a very dwarf variety with spreading branches; height 1 to 2 feet.

A. nigra pumila, very compact and neat, rather slender in growth; leaves bluish-green; height 4 feet.

Cupressus Libani nana, a very small-growing variety, with flat head; height 2 to 3 feet.

Chamæcyparis sphæroidea nana, a compact bush of small size, with glaucous foliage; height 2 to 3 feet.

Cryptomeria japonica nana, a very dense bush of distinct character; height 2 to 3 feet.

Cupressus Lawsoniana nana, a distinct variety forming dense bushes; 2 to 3 feet high.

C. torulosa nana, similar in character to the species, but very dwarf and compact.

Juniperus canadensis, a distinct species with spreading head; height 4 feet.

J. nana, a dwarf species of spreading habit; very interesting and useful.

J. hibernica compressa, a very dwarf tree of pyramidal habit; height 2 to 3 feet.

J. japonica, a small dense spreading species, very distinct in character; height 2 to 3 feet.

J. prostrata, a distinct trailing shrub, covering a considerable space, and generally known as the Carpet Juniper; height 6 to 8 inches.

J. sabina, a dwarf-spreading shrub with glaucous leaves; height 2 feet.

J. sabina variegata, this variety differs from the species in having some of the branches splashed with yellow.

J. squamata, a robust, free-branching shrub; height 3 to 4 feet.

J. tetragona, a spreading shrub of a very ornamental character; height 4 to 5 feet.

Picea Fraseri Hudsonica, a dwarf tree forming a dense bush; height 3 to 4 feet.

P. pectinata nana, a dwarf form of the silver fir; height 1 to 2 feet.

Pinus cembra pygmæa, a dwarf variety of distinct character; height 2 to 3 feet.

P. strobus nana, a dwarf grower with flat spreading head; height 1 to 2 feet.

P. sylvestris nana, a dwarf variety of a spreading habit; height 1 to 2 feet.

Podocarpus Koriana, a small bush of erect habit; height 2 to 3 feet.

Retinospora squarrosa leptoclada, a very compact little bush of a most ornamental character; height 3 to 5 feet.

Retinospora obtusa pygmæa, a dense-growing shrub, forming a neat bush; height 1 to 2 feet.

Taxus adpressa, a dwarf-spreading shrub, with foliage of a dark green; height 2 to 3 feet.

Thuja pygmæa, a very neat little bush of a bright green colour; height 1 to 2 feet.

IV.—TO CUT SPRAYS OF, FOR WINTER DECORATIONS.

Minorca box.

Round-leaved do.

Handsworth do. (*see* fig. 6).

Laurustinus, both for foliage and in flower.

Arbutus, with ripe fruit, if such can be had.

Berberis Darwinii, for delicate wreaths and fillets; thorny (*see* fig. 5).

Cotoneaster rotundifolia, leaves and berries.

Cratægus pyracantha, for flowers and berries.

Cryptomeria elegans, leaves.

Euonymus Europæus, coral berries.

Evergreen Privet.

Hollies, green and silver, best for gas; with berries where they can be had.

Phillyreas, dark foliage.

Skimmias, for berries.

Retinosporas, foliage for the most part of a lycopodium like character. The smaller sprays very useful for dressing vases, stands, &c., and for bouquets.

Thujopsis dolabrata, sprays.

Pernettyas, for drooping sprays.

Ivies, the younger sprays particularly useful for the trailing ornaments to vases, and the larger varieties for grand wreaths, festoons, &c. The latter, sewn flat and close together on strips of maroon or dark crimson-glazed calico, are exceedingly effective for decorations at Christmastide and other festivals.

V.—PICTURESQUE OR PICTORIAL SHRUBS, OR TREES TO BE USED AS SUCH TILL TOO LARGE.

The term "pictorial" was a happy definition to apply to a highly ornamental class amongst trees and shrubs having marked characteristics of form, colour, &c., though no generic affinity, or connection beyond the mere adaptability for a peculiar style of embellishment. From this point of view they may be considered as forming a distinct and novel section for the study of the higher grades of artistic gardening, producing eminently pleasing and useful effects. Although many of them are capable of reaching considerable size at full growth, it is not at that stage their employment is contemplated here; at such a period they belong rather to the park or plantation, or other position where sufficient space is found for displaying their beauty, or skilful disposition and employment. Few of the larger objects which might be classed under the above title, are, however, to be found, for obvious reasons, in the following list; which, moreover, is purposely made rather select than copious. Even as it is, it is more numerous than the ordinary wants of the cultivators for whom these pages are intended are likely to require. However, one advantage attends their enumeration, which is that of affording a variety for selection, according to individual tastes, or circumstances.

Those marked thus * are EVERGREEN: the others are DECIDUOUS.

Acer negundo variegata, leaves almost white; one of the most beautiful and striking trees ever introduced. Suitable for Standards.

Berberis vulgaris foliis purpureis, leaves rich purple, retaining their colour well throughout spring, summer and autumn, flowers bright yellow, forming a beautiful contrast with the leaves in spring.

**Chamæcyparis sphæroidea glauca*, a graceful Cypress-like plant, with bluish-white leaves.

**Chamæcyparis sphæroidea variegata*, similar to the preceding in size and form, but green beautifully blotched with gold.

Cornus mascula variegata (Variegated Dogwood), leaves green, broadly and evenly margined with silver.

Corylus avellana purpurea (the Purple-leaved Nut), leaves dark purple, broad and handsome.

**Euonymus radicans variegata*, leaves green, broadly and beautifully margined with bright silver; an exquisite plant for edgings to flower beds.

**Juniperus Virginiana glauca* (the Glaucous Red Cedar), leaves greyish white, distinct and beautiful.

**Juniperus Virginiana foliis aureis* (the Golden Japan Cedar), leaves green and gold in patches, a very effective and beautiful plant.

**Ligustrum Japonicum variegatum* (the Golden Japan

Privet), leaves dark green, beautifully blotched with gold.

**Ligustrum lucidum variegatum* (the Golden Chinese Privet), leaves large, green, evenly and broadly margined with gold; a very beautiful plant.

**Ligustrum ovalifolium variegatum*, leaves green, distinctly and broadly margined with silver; very showy.

Philadelphus coronarius variegatus (the Variegated Syringa), leaves green, broadly margined with white; a beautiful plant.

Robinia aurea (Golden Acacia).

Shepherdia argentea, leaves like frosted silver, a beautiful shrub.

Spirea opulifolia lutea, leaves yellow, most beautiful in early spring.

Symphoricarpos vulgaris foliis aureis, leaves green, edged with gold; a very pretty shrub.

**Taxus elegantissima* (the Silver Yew), a beautiful compact growing tree, of a silvery cast.

**Thuia aurea* (the Golden Arbor Vitæ), a dwarf compact plant of great beauty.

**Thuia elegantissima*, a beautiful golden yellow plant of pyramidal growth.

**Thuia orientalis foliis aureis*, leaves green and gold in patches, very effective.

Weigelia rosea variegata, leaves green, well edged with gold; a beautiful plant, flowering like its type.

VI.—SPECIALITIES IN STANDARDS.

Wherever any of the varieties amongst the species treated upon in these pages, can be induced to throw up robust single stems, we have a basis for the formation of a standard, which, however inelegant in the case of most varieties of roses, or other close and upright growing subjects, is highly picturesque and effective when the habit of a plant is expanding or drooping. This form, moreover, is especially adapted for use in shrubbery borders, where the stem is concealed by other plants, its head appearing above or amidst different foliage in agreeable contrast of form, foliage, or flowers. In a border for instance, it is impossible to over-estimate the effect produced by a standard of *Acer negundo variegata*, with its creamy white cone, rising amongst darker greens, or the brilliant relief afforded by the masses of colour exhibited by the rhododendron when in bloom. For border lines also, alternately relieving conical or bushy forms, the occurrence of the standard is of great value, particularly if the heads be well formed and of goodly dimensions, and if of sufficient size, they are also amongst the most picturesque and ornamental specimens for the lawn.

The thorns, the flowering almonds, cherries, plums and pears, all lend themselves readily to culture as standards; indeed that form suits certain of them best; but there are many others amongst the members of the shrub tribes that with management may be made to

assume it quite as well, and which would thereby acquire a new interest and increased usefulness by such a variation from their ordinary types.

Slender branched varieties will be best trained over a wire frame, or one may be made with strips of fine cane. A centre upright support for the stem of the plant to be attached to till it has attained sufficient solidity to support itself, should form part of the apparatus.

Ivy standards, with heads of the dimensions of an umbrella, have already been alluded to. Perhaps the handsomest of all for this work is the large, marble-leaved variety; the golden-green leaved also is very showy for such purposes. We would also repeat our recommendation to endeavour to grow *Berberis japonicus* as a standard for those who wish for a sensational lawn plant—its foliage is simply magnificent. For dwarf standards from one foot to three feet high, the hollies *painted lady*, *silver and gold*, *milkmaid*, and *Waterer's*, make beautiful plants for pots. Variegated and choice or scarce varieties of the Ilex race are frequently grafted or budded on the common kinds. The *Acacia hispida* (rose acacia), or *pseud-acacia* (the common acacia) makes very ornamental standards, from six to eight feet high; the worst of it is, they are only deciduous, provision for which deficiency must be calculated for in planting them. We have seen the *laurustinus* treated as a standard, much in the same way as the Portugal Laurel. When in flower, and with a well-developed head, this is really a beautiful object for certain positions in the garden. We have also

seen this charming shrub trained against a wall. The laburnum, the lilac, particularly the Persian, and even the Wistaria, may be grown with stems from six to eight feet, and are magnificent objects when in flower.

Sciadopitys, the umbrella pine, is an object more curious than useful, and it is in the first-named point that it is mentioned. It has often struck the author that it would be worth while to try the *Pyrus Japonica* in the mode of growth here treated of. The colour of its flowers and the time at which they are produced would be highly valuable amongst the evergreens in spring. The Weigelias, grown from cuttings, from the first with a view to the formation of standards, would be of the greatest beauty, nor would they occupy much time in production. From these remarks it is evident that a wide opportunity of varying the natural growth of plants into useful though artificial forms is open to the painstaking and ingenious. In due season healthy plants must grow, if not in one direction then in another. If not allowed to branch laterally, they will run up, and this fact suggests the method of producing any departure from normal forms of growth. Perhaps it will be useful to suggest that in such slender growing stems as those of *Clematis lanuginosa* it will be the most effective method to train only two or three leaders to the required height, keeping them attached to a light central stick or rod to support them, and afterwards allow them to form a head of drooping garlands under the customary routine of operation.

VII.—DWARF-GROWING, CREEPING, AND TRAILING PLANTS FOR SPECIAL POSITIONS.

All are *evergreen* except where marked otherwise.

Periwinkle (*Vinca*) evergreen, bright green varnished leaves, of great substance; invaluable for covering the surface of the ground in shady situations, or for any trailing purposes; ordinary soil.

V. major (greater), flowers blue, in July.

Variegated do., a pretty plant for baskets.

Minor do., flowers blue, in April.

The pigmy *Arbor Vitæ*, flat, glaucous branchlets.

The dwarf Japan Cedar, peculiar, dwarf variety for rockeries.

The dwarf-growing Juniper (*nana*), seldom more than 1 foot high, but very flat and spreading.

The prostrate-branched Juniper, a glaucous trailing plant.

The common Savin, low, spreading, dark green.

The dwarf Corsican Pine, branches flat to the ground; rockwork, very dark green.

Pumilio, spreading, dwarf bush; coverts, will grow anywhere.

The Creeping Yew, low spreading bush, bright green foliage.

Berberis empetrifolia, a pretty creeping plant; flowers yellow, in May.

Berberis repens, creeping; do.

St. John's Wort (*Hypericum calycinum*), large calyxed;

under the shade of trees or for any similar position; 1 foot high; large yellow flowers, in June.

Daphne cneorum (Garland Flower), a beautiful trailer, flowers pink, sweet-scented, in June.

D. laureola (Spurge Laurel) green, in February; a good plant for shady places.

D. pontica, sweet-scented green flowers.

The Ivies may all be used as trailing plants, and under that mode of treatment make excellent edgings, either alone or trained over wires or clinkers; they are also the best for covering the exterior of garden baskets.

Euonymus radicans variegata, a beautiful low-growing creeper, especially for edgings.

Genista tinctoria flore pleno, a low trailer, very pretty, flowers yellow.

Pernettya mucronata (pointed-leaved), *angustifolia* (narrow-leaved), and *speciosa* (showy), and *Berberis stenophylla* may be used as trailing plants; they are also berry-bearers.

VIII.—CHOICE SPECIMENS FOR LAWNS.

The planting of lawns occurs under so many different conditions, and is so much affected by dimensions and natural configuration, that it is scarcely possible to lay down definite systems of arrangement. What would be appropriate in one case would probably be totally unfitted in another; each, therefore, must be treated according to individual circumstances and the taste of

the designer. It will be advantageous, nevertheless, to throw out a few hints towards the attainment of an artistic design, for although we cannot satisfy every one's notions, we may obtain the approbation of those qualified to judge. In making any selections the size of the lawn must be taken into account. Nothing can be more objectionable than overcrowding, or than placing disproportionately large objects where there is not sufficient space for their proper display. The same principle applies whether the planting is single or in groups. The latter are best at the boundaries or extremities, while single specimens appear to the greatest advantage standing alone. Shrubs dotted about a space produce a very unsatisfactory effect, analogous to what is termed being "spotty" in a picture—in fact, a symmetrical proportion ought to strike the beholder at a glance in a well-planted lawn.

There will be found numerous admirable varieties for planting upon lawns amongst any of the lists given in this book, particularly under the heads V. and VI. These, for the most part, are suited to use as single specimens. It is well to point out that weeping or pendulous objects are always in place. To particularise a few good things, we may take *Abies alba glauca*, *A. Douglassi*, *Araucaria imbricata*, *Cupressus Lawsoniana*, and *MacNab's Cypress*, *Juniperus Chinensis*, *J. Virginiana* (Red Cedar), *Cedrus Deodora*, *Cephalotaxus Fortunei*, *Retinospora obtusa*, *pisifera* and *plumosa*, *Taxus baccata*, *nana*, *fastigiata*, and the New Golden Yew; *Thuia Lobbii*, *gigantea*, *Wareana*,

and *aurea*, *Thujopsis borealis*, and *dolabrata*, *Acer negundo variegata*, the Thorns, and the Hollies, particularly *Canadensis* and the green varieties, which form handsome pyramids. Rhododendrons are unequalled for groups, with the Skimmias for bordering them. The Robinias, *rosea*, *inermis*, and *pendula*, are beautiful when not too large.

The list might be extended *ad infinitum* by the admission of trees, such as the Purple Beech, &c., were not objects of such a size beyond either the means or requirements of the amateurs contemplated in the design of this work. It is important to remark again that no plant should be grassed up to the collar.

IX.—MINIATURE SHRUBS FOR MINIATURE GARDENS.

This is a class of shrubs not only of a dwarf or prostrate habit, but which have a completeness of contour when at maturity equal to that of the larger members of their families, although of diminutive stature. They are, in fact, the "General Tom Thumbs" of their race. They are in consequence particularly valuable in such positions as require to be furnished permanently with objects of small dimensions but of symmetrical proportions, and which cannot properly be filled with such, as, though appropriate for a time, soon outgrow their place and require removal. By the use of these beautiful little plants we might furnish out an interesting shrub-

bery in a dozen feet square, or the little border allotted for the amusement of the children. Indeed, there are so many ways in which they might be utilized by any one of taste and resource, but of confined opportunities, that their importance is greater than at first sight might appear.

CONIFERS.

Abies parviformis, horizontal branches, slow growth.

Abies pigmæa, very diminutive, but spreading.

Abies pyramidalis, good for lawns and rockeries.

Biota (Chinese *Arbor vitæ*).

Thuja aurea, and *semperaurescens*, compact globular form, slow-growing; golden yellow. For every situation where a small round bush is desirable, these are amongst the most desirable plants.

Thuja cinerea (ash coloured), a very distinct dwarf silvery grey shrub.

Thuja compacta (compact), very dwarf and pretty; slender branches of vivid green.

Thuja pygmæa (pigmy), very small and slow-growing, flat glaucous branchlets; a pretty miniature specimen.

Cryptomeria nana (dwarf Japan Cedar), very dwarf, specially suited for rockwork.

Juniperus japonica, only grows to 2 feet, rockwork.

Juniperus nana (dwarf), only 1 foot high, but very wide and spreading.

Juniperus prostrata or *repens* (prostrate or creeping), a glaucous trailing plant, very ornamental.

Juniperas Virginianus humilis (dwarf Virginian Cedar), quite a miniature kind, purplish tint in colour, angular branches.

Pinus pygmæa (dwarf Corsican Pine), very dwarf, branches flat on the ground, dark green.

Taxus ericoides (heath-like Yew), slow-growing, small foliage, peculiar, for rockwork and miniature gardening.

Thuja minima (the miniature American *Arbor vitæ*), very dwarf and slow-growing; very suited for miniature gardening.

Ware's *Arbor vitæ, compacta*, very slow-growing, suited for rockwork.

Daphne cneorum, in July. (*See* List 7).

Andromeda rosamarinifolia, 1½ feet., pink, in July, and *Ledum thymifolium*, evergreen, ½ foot; *prostrata* (prostrate), ½ foot.

Berberis repens (creeping), evergreen, 2 feet.

Ulex nana (dwarf), 1½ feet; yellow, August; grows anywhere, and in any soil.

Artemisia abrotanum (Southernwood), the old favourite of the cottage garden; may be kept very dwarf, cut back freely, and gives a useful tone of silvery green.

Gaultheria procumbens (trailing), evergreen, white, in July; and *Shallon*, evergreen, 1 foot, white, in May.

X.—SHRUBS FOR POTS, BALCONIES, WINDOW-SILLS, AND AREAS.

In all the families, whether of evergreens, deciduous and flowering shrubs, or conifers, some amongst them may be found adapted for cultivation in pots, in which form they are suited to the embellishment of numerous positions both for in and outdoor use. In remarking upon this department of shrub culture, we do not purpose referring to the routine to be pursued in their management under glass, though where there is a conservatory or greenhouse the owner may, at his pleasure, introduce a few favourite kinds with excellent effect, which will not only add to the beauty of the display there, but may be removed to the interior of the residence, or other positions, when flowers are scarce. Almost every shrub, of suitable size, mentioned in these pages may be lifted from the ground and transferred to pots, and again returned to its former place, without injury. Those from one to two feet high will be quite large enough for the window-sill, but for the balcony or the area those of much larger dimensions may be introduced, particularly for the latter. Amongst those which convey such an aspect of finish and cheerfulness to the exterior of the town house, and pleasure to its inmates, rhododendrons of the hardy kinds, aucubas, euonymus, and even the tree-box (*balearica* and *latifolia*), will thrive excellently in such areas as belong to the residences in the neighbourhood of the London squares—the further

from St. Paul's, as a centre, the better, of course. Indeed, such places can and ought to be made to serve the purposes of the "fore-court" in more suburban positions, for there are not a few beautiful members of the shrub, and even of the flowering tribes, that are capable of making a garden amidst the wilderness of bricks and mortar that makes up the greater part of the metropolis. The plants mentioned above ought to be grown in large pots or tubs. The soil ought to be of the best quality, and its surface removed from time to time and replaced with new; water will not be required to area plants so frequently as to those under ordinary circumstances, but the drainage must be thorough and well attended to. For climbers, we have the Virginian creepers and strong growing ivies—Irish and Algerian for choice, and especially the beautiful marbled creamy white and green kind before named. The first appears impervious to the effects of smoke, soon covering the walls and festooning the windows with its vivid, cheerful green in summer, and rich scarlet and red tints in the autumn. The fig also and the vine may be added as foliage wall-plants. To grow any of these a paving stone, or a few bricks, should be taken up, and a hollow dug out and filled with the best loam that can be procured, and the tree planted, but the stone or bricks not to be replaced. For all the purposes named under the head of this article, we may take aucubas, the euonymuses *aurea*, *aurea variegata*, *radicans marginatus*, and *flavescens; thuia aurea, semper aurescens*, and *Lobbii; retinospora obtusa*, *pisifera;*

and *arbor vitæ*, so long as they are in keeping as to size. *Skimmias*, *Weigelia amabilis* and *rosea*, not more than two feet high; *Cupressus Lawsoniana*, to the same height, may all come under treatment for our purpose, in pots. In arranging them in position, round-topped plants ought to be contrasted with conical or pyramidal, and for this purpose, as well as for the dark colour, young plants of the Irish Yew are very useful and effective. They ought to be put into pots of the smallest convenient size, and when done with, if not planted in a border in the spring, let them be plunged in a bottom of coal ashes, in a shady situation, not overshadowed with trees, and liberally watered during the summer. What pruning may be found necessary to preserve their shape should be done in the spring before removal to their summer quarters.

For more highly ornamental positions certain of the coniferous section are capable of producing admirable effects when cultivated in tubs and boxes, which may be of more finished and artistic appearance than the ordinary red clay pots, to form accessories to the promenade, Italian garden, principal entrances or approaches, or even to relieve the formality of long straight walks of turf or gravel. Being removable is another advantage, as they can be used for temporary purposes, or taken out of sight when not in good condition. It will be worth while, on account of their extensive utility, to notice some of the choicer conifers a little more in detail, for the purpose in hand, than in the enumeration

given above. *Cupressus Lawsoniana* is one of the best, either for tubs or open garden positions, when small or of a medium size. A pair of these, one on each side, has a striking effect, placed at the foot of a spacious flight of steps, or at the entrance to formal pleasure walks, or even in centre of large vases of stone. *Cupressus Lawsoniana erecta viridis* is, perhaps, superior in some respects to the specific form, being more compactly pyramidal, of brighter green, and denser foliage. *Cupressus Lawsoniana gracilis* is dwarfer and rounder in form, and *aurea* has the tips of the young shoots golden green. We do not, however, consider these *variegates* amongst the conifers so highly ornamental as in many other subjects, because, after all, they are not very decided nor distinctly permanent. The *araucarias* are more suited, perhaps, for conservatory embellishment; but still, in such weather as prevails during great part of the year in many parts of England, they may be advantageously used in similar positions to those already named, with the requisite qualifications as to size. The best are *A. Bidwilli*, a very fine example, though of large growth; *A. Brasiliana*, a beautiful pyramidal tree; *A. Cooki*, tall, horizontally arranged branches, very handsome; and A. *excelsa*, more spreading, plume-like branches, drooping gracefully. The same remark is applicable to *A. Cunninghami*. *Thuia gigantia*, or *Librocedrus decurrens*, is a very stately pyramidal object, but it ultimately arrives at the stature of a good-sized tree. *Thujopsis dolabrata*, and *Thuia aurea*, globular-

like, are noble plants for tubs or large pots or boxes. *Retinospora plumosa*, though smaller, must not be omitted, in addition to those spoken of, on account of its feathery, light and elegant foliage. These coniferous subjects, which we have specially singled out for tubs or boxes, are to be understood as being for the use of the eclectic order of cultivators, who have superior appliances at command, and accessories with which they would be quite in keeping.

It has always been a notion of the Author that boxes are far better for the culture of such plants as shrubs than pots, however large. These boxes, also, ought to be provided with a pair of handles, when the plants growing in them are large, for the convenience of lifting them from place to place. We have seen them of such a shape as to allow a pole to be thrust through on each side so that they can be carried about easily as required by two workmen, after the style of the old Sedan chair. The convenience of such a contrivance will be duly estimated by any one who has witnessed a man struggling and wrestling with a bulky plant in a huge pot full of mould, which perhaps only requires moving half a dozen yards.

APPENDIX.

AVERAGE PRICES OF THE SHRUBS MENTIONED IN THIS BOOK.

It will be a most valuable help to the inexperienced before embarking in the planting of a shrubbery, to be acquainted in some degree with the probable cost of such an undertaking. Fortified with an appropriate estimate, the task will be easy, and according to the old saw—he will be enabled to "cut his coat according to cloth," or in other words, make his selections according to the state of his purse. We would, at this stage especially, remind would-be purchasers of another time-honoured saying, not without too frequent modern application, as to being, "Penny wise and pound foolish," which has special force with respect to dealing in plants. We cannot too urgently enforce the advice upon the inexperienced to buy only at the first rate nurseries, where there are almost unlimited objects to select from, and where money's worth will always be got for money;

with the best advice, where such is required, into the bargain. At such nurseries as Waltham Cross, Lea Bridge Road, Berkhampstead, Worcester, and numerous others of similar grade, shrubs are cultivated by the thousands, and specially treated to ensure successful removal. The uninitiated would be astonished at the immense numbers sent to all parts of the world by the great trade firms every year. The advantages therefore of dealing at such establishments scarcely needs pointing out.

EVERGREENS.

Aucuba Japonica—Spotted Laurel, 2½ feet, price 1*s.* 6*d.* Newer kinds, 2*s.* 6*d.*

A. Japonica, fœm. Walthamensis (new), 7*s.* 6*d.* upwards.

Berberry or Barberry (*Berberis*), 2½ feet, 9*d.* to 1*s.* 6*d.*

B. Japonica, 1½ feet, 2*s.* 6*d.*

Box-Tree (*Buxus*), 2 to 3 feet, 9*d.* to 1*s.* 6*d.*

B. argentea, 1*s.* 6*d.* to 5*s.* 0*d.* } these are 4 feet pyramids.
B. aurea, 1*s.* 6*d.* to 5*s.* 0*d.* }

Common Laurel (*Laurocerasus*), 2 to 3 feet, 6*d.*, 9*d.*, to 1*s.*

Euonymus (*Spindle-tree*).

E. coriaceum, 1*s.* to 1*s.* 6*d.*

E. coriaceum, standards, 2*s.* 6*d.* to 5*s.* 0*d.*

E. flavescens, 18*s.* to 42*s.* per dozen.

E. radicans rosea marginatus } 9*d.* to 1*s.* 6*d.*
E. radicans variegatus }

Evergreen, strong, per 100, 10*s.* 0*d.* to 15*s.* 0*d.*

Garrya elliptica, 2½ feet, 1*s.* 6*d.*

Holly (*Ilex*), about 3 feet, varies from 2*s.* 6*d.* to 3*s.* 6*d.*, 4 to 5 feet, 5*s.* to 7*s.* 6*d.*

Ivy (*Hedera*), standards, 10*s.* 6*d.* upwards.

Plants in pots, 1*s.* 6*d.*

Laurus nobilis (*Sweet Bay*), 2 to 3 feet, 9*d.* to 1*s.* 6*d.*

L. macrophylla, 9*d.* to 1*s.*

L. osmanthus, 1 to 1½ feet, 1*s.* 6*d.* to 3s. 6*d.*

L. phillyrea, 2 to 3 feet, 1*s.* to 1*s.* 6d.

Portugal Laurels, standards, 10*s.* 6*d.* upwards.

Privet (*Ligustrum.*)

L. Japonicum, 6*d.*, 9*d.* and 1*s.* 0*d.*

L. Japonicus latifolius albus variegatus, 1*s.* to 2s.

L. ovalifolium, 3 feet to 4 feet, 3*d.*

L. ovalifolium, 5 feet to 6 feet, 4*d.* to 6*d.*

L. ovalifolium, standards, 6 feet, 1*s.* 6*d.* to 2s. 6*d.*

L. coriaceum, 1*s.* 6*d.* to 2*s.* 6*d.*

CONIFERS.

ABIES :—

A. alba glauca, 3 feet, 3*s.* 6*d.* upwards.

A. cærulea, 3*s.* 6*d.* upwards.

A. Clanbrassil's, 2*s.* 6*d.* upwards.

A. Clanbrassil's, stricta, 3*s.* 6*d.* upwards.

A. elegans, 2*s.* 6*d.* to 3*s.* 6*d.*

A. horizontalis, 2*s.* upwards.

A. inverta, an expensive kind.

A. pumila, 2*s.* 6d.

A. parviformis, 7*s.* 6*d.*

A. pygmæa, 5*s.*

A. pyramidalis, 15 to 18 inches, 5*s.*

Pinus cembra, 2 feet, 1*s.* upwards.

P. Hudsonica, 3*s.* 6*d.*

P. Pinsapo, 15 to 18 inches, 2*s.* 6*d.* upwards.

P. pumilo, 9 to 12 inches, 6*d.*

P. pygmæa, 2*s.* 6*d.*

ARAUCARIA imbricata, 5*s.*

ARBOR VITÆ :—

American, 1*s.* 6*d.* upwards.

American, variegated, 2*s.* 6*d.* upwards.

Thujopsis dolabrata, 3*s.* 6*d.* to 10s. 6*d.*

Thuia aurea, 1*s.* to 10*s.* 6*d.*

Thuia semperaurescens, 1*s.* 6*d.* to 10*s.* 6*d.*

Ware's, 6*d.* upwards.

The remaining varieties named in the list vary from 1*s.* to 5*s.*, for the most part according to size.

CEDAR :—

Cryptomeria elegans, 2 to 3 feet, 1*s.* 6*d.* to 2*s.* 6*d.*

Cryptomeria Lobbi (*Lobb's*), very green colour, compact habit, 2*s.* 6*d.* to 5*s.* each.

Cryptomeria nana (*dwarf*), very dwarf, useful for rock work, 1*s.* 6*d.* each.

Deodara, 2 to 2½ feet, 1*s.* 6*d.* each.

Libani nana, 2*s.* 6*d.*

CYPRESS :—

Corneyana, 2*s.* 6*d.*

Fraserii, 7*s.* 6*d.*

Japan Cypress (*Retinospora*), 1*s.* to 3*s.* 6*d.*

C. Lawsoniana, 2 to 3 feet, 6*d.* to 9*d.* each.

The varieties given in this class vary but little in price, except according to size:—those of 2½ feet in height, average from 1*s.* 6*d.* to 3*s.* 6*d.* each.

JUNIPER:—

Canadensis, 3 feet, 1*s.* to 1*s.* 6*d.*

Chinensis, 3 feet, 1*s.* to 1*s.* 6*d.*

Communis, 2 feet, 6*d.*

Compressa, 2 feet, 2*s.* 6*d.* to 5*s.*

Drupacea, 5*s.*, &c.

Echiniformis, 2*s.* 6*d.*

Excelsa stricta.

Hibernica, 2 feet, 1*s.* 6*d.*

Japonica, 3*s.* 6*d.*

Japonica nana, 1*s.* 6*d.*

YEW:—

Adpressa, 2*s.* 6*d.* upwards.

Baccata, 6*d.* upwards.

Canadensis, 3*s.* 6*d.* to 3*s.* 6*d.*

Dwarf, new (William Paul), 1*s.* 6*d.* upwards.

Erecta.

Ericoides, 2*s.* 6*d.*

Irish, 1*s.* 6*d.* upwards.

New golden yew, 3*s.* 6*d.*

DECIDUOUS.

Beech (*Fagus*), 1*s*. 6*d*. to 7*s*. 6*d*.

Buckthorn (*Rhamnus*), 1*s*. 6*d*.

Dogwood (*Cornus*), 1*s*. 6*d*.

Elder (*Sambucus*), 1*s*. 6*d*. to 2*s*. 6*d*.

Hazel (*Corylus*), 1*s*. to 1*s*. 6*d*.

Maple (*Acer*), standards, 5 to 6 feet, 1*s*. 6*d*. to 2*s*. 6*d*.

Oak (*Quercus*), 1*s*. 6*d*. upwards.

Privet (*Ligustrum*). (*See* Section 1.)

Sumach (*Rhus*), 1*s*.

AMERICAN PLANTS.

Andromeda floribunda, 1*s*. 6*d*., 2*s*. 6*d*. upwards.

Azaleas, hardy, 1*s*. 6*d*. upwards.

Empetrum nigrum, 1*s*. 6*d*.

Hardy Heaths (*Erica*), 6*s*. to 9*s*. per dozen.

Kalmia, 1*s*. 6*d*. to 5*s*.

Ledum (*Labrador Tea*), 1*s*.

Pernettya, 1*s*. to 2*s*. 6*d*.

Rhododendron (*Rose Bay*), common, 12*s*. per dozen and upwards; 4 feet standards, from 5*s*.; named, from 1*s*. 6*d*. each.

CLIMBERS AND CREEPERS.

Aristolochia Sipho, 1*s*. to 1*s*. 6*d*.

Bignonia capreolata, 1*s*. 6*d*. to 2*s*. 6*d*.

Ceanothus, 1*s*. to 1*s*. 6*d*.

Chimonanthus fragrans (*Japan Allspice*), 1*s.*

Cotoneaster microphylla and Simmonsii, 6*d.* to 9*d.*; extra, 1*s.* 6*d.*

Cratægus pyrcantha (in pots), 1*s.* to 1*s.* 6*d.*

Euonymus Japonica variegata and radicans variegatus. (*See* Section 1.)

Garrya elliptica. (*See* Section 1.)

The Honeysuckle (*Lonicera*) } prices about the same
The Jasmine (*Jasminum*) } as Clematis.

Magnolia grandiflora conspicua, 2*s.* 6*d.* upwards.

Passion-Flower (*Passiflora cærulea*).

Roses. (*See* Grower's Catalogues.)

Virginian Creeper (*Ampelopsis*), 1*s.* to 1*s.* 6*d.*

Virgin's Bower (*Clematis*), common, 1*s.* each; named varieties, from 1*s.* 6*d.* upwards, according to novelty.

Vitis heterophylla, 2*s.* 6*d.*

Wistaria Sinensis, 1*s.* 6*d.* to 3*s.* 6*d.*

FLOWERING SHRUBS.

Althea frutex, in varieties, 1*s.* to 1*s.* 6*d.* each.

Amelanchier, 1*s.* 6*d.*

Broom, 6*s.* to 9*s.* per dozen.

Coronilla, 1*s.*

Cotoneaster, 1*s.*, 1*s.* 6*d.*, 2*s.* each.

Cydonia Japonica, or Pyrus, 1*s.* to 1*s.* 6*d.*

Daphne, 1*s.* to 1*s.* 6*d.*

Furze, 6*d.* to 1*s.* each.

Guelder-rose, 6*d.* to 1*s.*

Hawthorn, 1*s.* 6*d.* upwards

Hydrangea, 1*s.* to 1*s.* 6*d.*
Laburnum, 1*s.* to 1*s.* 6*d.*, standards more.
Lilac, 9*d.*, standards, 2*s.* 6*d.*
Pernettyas. *See* prices already given.
Philadelphus, 6*s.* to 12*s.* per dozen.
Privets. *See* prices already given.
Ribes, 6*s.* to 12*s.* per dozen.
Skimmias, 1*s.* to 2*s.* each.
St. John's-wort, 1*s.*
Weigelia 9*s.* per dozen, 1*s.* to 1*s.* 6*d.* each.
Aucuba, Holly, Ivy, Thorns } *see* prices already given.

USEFUL HINTS.

Trees, shrubs, and the like, put in by the tenant, become landlord's fixtures, and cannot be removed at the expiration of the tenancy, except where the ground is taken expressly for nursery purposes.

Decaying wood should never be allowed to remain below, or even on the surface, as it produces *mycelium* or fungus, which attacks the roots of plants, and destroys insidiously many a fair plantation.

Animal manures are not beneficial to the greater part of the shrub tribe; but wood-ashes or charcoal dust, with a little guano intermixed, may be used advantageously where such stimulant is required.

Shrubbery beds and borders ought to be forked over, not dug with a spade, annually, being left somewhat rough between the plants during the winter months, and should at all times be kept clear from weeds and rubbish.

Shrubs on lawns, verges, or turf of any kind, ought never to be grassed up to the collar.

Reserve shrubs in pots ought to stand on a bottom of small coal-dust, or fine ashes, or sifted cocoa-nut fibre refuse; but the plunging material ought never to be *above* the rims of the pots, or to cover the surface of the soil therein.

Great care ought to be taken in watering plants grown as above pointed out, that the water goes *entirely through*

the soil. If this be not seen to, plants may die of absolute drought, although watered every day. This hint is the result of the Author's experience, he having once lost a fine batch of pot-roses through too superficial watering. Immersion to the rim of the pot is most effectual, where that method can be practised.

The margins of turf ought to be kept in a clean cut line, with a sharp edging iron; and box edgings to gravel walks or geometrical beds ought to be as even as a ruled line wherever introduced into highly kept gardens.

A very elegant and attractive evergreen centre, especially on a well-kept lawn where there is sufficient space to display it to advantage, may be planted in the following manner:—Taking in a diameter of fifteen feet, a bed of good soil should be made, rising equally on all sides to a central point, about three feet above the level of the surrounding turf. This gradual rise will set off the shrubs employed better than a flat surface. A finely-grown specimen of pyramidal form of some of the dark hollies—*Shepherdii*, perhaps, for choice—is to occupy the central position. Round this a circle may be placed, alternately of *Aucuba japonica* and *Arbor vitæ*. At this point we have three well contrasted colours, and three forms of growth. The next circle ought to consist of plants of a dwarfer stature, or at least stage of growth, contrasting forms and colours as before. *Thuia aurea* or *Taxus nana*, alternating with *Retinosporas*, *Junipers*, or dwarf *Abies* of glaucous tone will be found effective. The

outer circle may be occupied with *Skimmias* and dwarf Rhododendrons, the whole distances between the plants being so arranged as to leave eighteen inches or so clear between the outer row and the grass edging, for the introduction of brilliant and high-coloured flowers, or quiet neutrals, at discretion. With respect to dwarf-growing shrubs for front rows, it may be useful to many if we append the following, extracted from a back number of the *Gardeners' Magazine*:—

THE CUSHION EUONYMUS.

"The evergreen shrub I propose to designate for garden purposes, the 'Cushion Euonymus,' is the *Euonymus fimbriatus* of the books. You will find it in every good catalogue, and consequently in every good nursery, but no one speaks in its praise, and it wastes its sweetness of form and colour on the desert air, where dwell the unappreciative. It is, however, eminently worthy of a note of admiration, for it is a marvel of neatness, and only needs to be slightly clipped over every year to form a perfect cushion of rich glossy dark green herbage. It is the neatest and densest and dwarfest habited of all the euonymus family; the leaves are not longer than a man's thumb-nail. For a front line or edging in a shady entrance court this euonymus is worth its weight in gold, and it is not the less admirably adapted for the rockery, clothing it, not with herbaceous plants, but with pigmy trees and sub-shrubby evergreens. Those who value first-class hardy evergreen shrubs

should obtain this euonymus if they do not already possess it, and give it a front place in a good border in a shady situation.—S. H."

A recommendation coming from such a horticultural authority ought to commend itself with especial weight to the admirers of high class shrubs, and we would urge its trial in the boxes or pots of town window-sills, where its style ought to be in equally good "keeping" as in the fronts of borders.

Boundaries to lawns, or a side border to a walk, may be planted in a similar style, the outline for the first being a concave semicircle, and the borders serpentine or a succession of curved outlines. In either of these cases somewhat raised borders, with sloping grass verges, will add greatly to the ornamental appearance of the design.

The *Pernettyas*, *Berberis stenophylla*, *Cotoneaster microphylla*, *Euonymus radicans variegatus*, *Euonymus radicans roseo marginatus*, and *Euonymus flavescens* and *aureo marginatus* are all admirable plants for first rows next the edging in shrubbery borders.

For purposes of cleanliness, which is almost synonymous with health in plants as well as in the human kind, frequent and copious use of the garden engine is strongly urged, especially in gardens near towns.

When shrubs are young, especially if they be planted so as to be seen from all sides, they ought to be lifted annually or biennially and turned, so that the side previously facing the north should be turned to the south,

and vice-versâ, in order to produce an equally balanced and symmetrical contour from every point of sight.

As a rule, shrubs should be carefully kept well furnished at the bottom. To do this, when we observe a deficiency in the lower branches, we must curtail growth at the top, by pruning and pinching out till the vacuum below is properly filled up.

GRAFTING WAX.

The following recipe may be useful to our readers:—Grafting wax, which is much to be preferred to the dirty composition called "grafting clay," is composed of a mixture of that and horse droppings. There are several preparations of "wax," but the following has the convenience of not requiring to be applied warm, nor will it adhere to the fingers in use. Yellow wax, 1 lb., turpentine 1 lb., Burgundy pitch ½ lb., mutton suet 4 ozs.; melt all together, mix completely, and let the mass cool. It may then be rolled into balls, and put aside in a dry place ready for use. Beware of the mixture taking fire while being melted, as the materials are of a highly inflammable nature.

A SHORT EXPLANATION OF THE NAMES USED IN THE NOMENCLATURE OF SHRUBS, &c.

Although perhaps somewhat out of the precise scope of these pages, it will be a great help to the tyro in plant nomenclature to have a general notion of the names under which shrubs, &c., are known in trade catalogues or other cognate works. Such knowledge will be the more useful as these names are often a key to their distinguishing plant characteristics, as *latifolium* (broad leaved), *nana* (dwarf), and consequently to their use. For the most part, they are of Latin or Greek origin, though it must be confessed not always of the most orthodox structure. However, for the present purpose they must be taken as we find them, without the Author being understood to vouch for their strict grammatical accuracy. Indeed, to discuss this portion of the subject at length would take up half the book.

The general principle by which horticultural and botanical technology appears to be regulated is the addition of some descriptive or adjectival word—simple or compound—to the generic name of any plant, to distinguish its varieties. Sometimes this term is made up from the name of its discoverer or introducer, sometimes it is designated in honour of some distinguished *savant*,

and sometimes from a striking feature or resemblance in the plant itself. Thus we have *Cephalotaxus Fortunei* (Fortune's cluster-flowered Yew), *Berberis Darwinii* (Darwin's berberry); *ilicifolium* (holly-leaved), *aureus* (golden), and so on.

Yet again we have *Shepherdii*, or Shepherd's; and *Canadensis*, or Canadian. It does not require very extensive grammatical knowledge to understand that these adjectival words ought to agree in gender with the roots, to which they are conjoined, though too often in catalogue Latin they do not. Neuter roots and feminine affixes, and similar barbarities, are commonly perpetrated, until they have become so established as to render it a task of difficulty and labour to weed them out. Without pursuing the philological aspect of the question further here, we shall proceed to the practical consideration of some of the most common technical terms useful to be understood by the cultivator.

TERMINATIONS.

"*i*" *or* "*ii*" = of. — Thus *Darwinii*, Darwin's, *Hookerii*, Hooker's, &c.

"*Anus*," "*ana*," "*anum*."—Has also a cognate value, or = named after: as *Leana*, Lee's, *Hookeriana*, Hooker's, or named after Hooker.

"*Cus*," "*a*," "*um*."—As Virginicus, Virginicum.

"*Ensis*" = native country or place from whence introduced: as *Sinensis*, from China, *Braziliensis*, Brazilian or from Brazil.

"*Oides*" = resembling or like to: as *Ericoides*, heath-like.

"*Ens*" "*escens*" = Continuity of quality as *sempervirens* continuing green, or evergreen, *arborescens*, tree-growing.

"*Cans*" and "*ans.*"—Assimilate to the above: as *radicans*, rooting.

"*Osus*," &c. = Abounding: as *corymbosus*, abounding in blooms.

"*Alis*" = belonging to: as, *Australis*, Australian.

"*Antha*," under various forms = flowered: as *chlorantha*, green-flowered.

"*Carpa*" = berried: as *chrysocarpa*, yellow-berried.

"*Foliis*," abbreviation, *fol.*: "with" leaves.

"*Folium*," "*folia*," "*phyllum*," "*phylla*" = leaf: as *aquifolium*, prickly leaf, *macrophylla*, large leaf.

"*Loba*" = division of a leaf: as *triloba*, three-lobed.

"*Sperma*" = seeded: as *erythrosperma*, red-seeded.

"*Ceus, cea, ceum*" = having the character or quality of; as *sericeum*, silky.

"*Androus*" = term for male sex; as *decandrous*, having ten stamens.

In compounds, "*macro*" = large; as *macrophylla*, large leaf or leaved.

"*Micro*" = small or little; as *microphylla*, small leaf or leaved.

In compounding, adjectives ending in "*us*" "*a*" "*um*" usually become "*i*": as *angustus*, narrow, *angustifolium*, narrow-leaved, *acutus*, sharp, *acutifolium*, sharp-leaved; those ending in "*er*" change into "*o*," as *ater* makes *atro*, as *atro-virens*, dark green.

It will be found upon close examination that most of the descriptive terms are feminine in form, the natural consequence of so many names of plants being of that gender. They are usually such as denote colour, form, quality, property, and such-like: as *aureus*, golden, *variegatus*, variegated, *palmatus*, palmate, *scandens*, climbing, *odoratissima*, very sweet.

To pursue this subject more minutely would occupy far too much space; but sufficient information has been given to enable the uninitiated to attain, especially with the aid of a Latin dictionary, a fair comprehension of a subject which is not one of the least difficult or perplexing in connection with horticultural pursuits.

SUPPLEMENTARY REMARKS.

Before closing, the author wishes to make a few supplementary remarks. On the subject of any designs for gardens, the owners generally have some preconceived idea of the style which would please their fancy most, but as, in almost all cases, conditions already there will have to be dealt with, they must study to make the best of them as they actually exist rather than incur the trouble and expense of entirely remodelling them. To do this our advice is, not to be in too great haste in determining upon their plans. See other places first, and as many things, and their application, as possible, before making final decisions, and do not begin with too many subjects at once. It is much easier to add to than to alter or remove—neither of the last two unsatisfactory operations will come much to the front when the beginning has been well thought out. The rationale of sound laying-out may be summed up in a few sentences. The great point is to fit everything together properly, observing such a combination of outline and colours as shall produce a feeling of pleasure in the scene viewed from whatever point of sight. As we have already said, every legitimate adoption of desirable features, even though not on our own ground, ought always to be an approved consideration. Amongst these, to give the appearance of extent, especially where space is limited,

is of primary importance, and a skilful employment of shrubs as screens and openings, with gently winding instead of straight walks, which will suggest distance, especially where opening up some remote object of pleasing or interesting appearance, is amongst the most effectual means of attaining such ends.

It is not to be supposed that these pages profess to contain a complete exposition of the whole of the shrub tribe; to enumerate which would require volumes of goodly size. Its scope is to be understood from three words in the titlepage—"hardy," "popular," and "amateurs." Few of the last are likely to be so circumstanced as to require more than even a portion of the families described, but any number of them may be selected with the probability of assured success. A word as to the cuts. Each is intended to illustrate some point in the subject treated of, such as mode of employment, peculiarity in form of leaf or manner of training. Thus we have in cut 1, a representation of the artistic planting of each side of a main walk or promenade. In 9, a representation of picturesque massing of a special subject. In 7, a peculiar form of floral development called *catkins*. In 3, 5, 6 and 11, distinct forms of leafage. In 8 and 12, examples of particular ways of training certain plants. All of these it is hoped will be instructive and useful to the particular class of cultivators whose wants such an elementary book is designed to meet, and which the

author believes to stand so far by itself. He would further remark that the plates are merely coloured wood-cuts, a medium which does not pretend to rival in softness and finish highly-priced chromos, although equally faithful as to portraiture.

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